

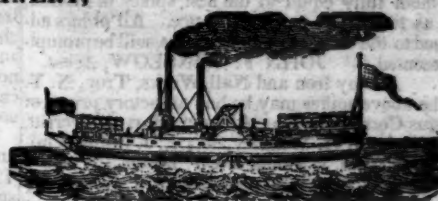
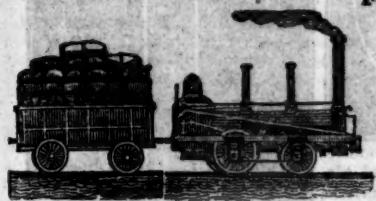
Engineers Office

# AMERICAN RAILROAD JOURNAL, AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY,

AND MINES.

ESTABLISHED 1831.



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[WHOLE No. 494, VOL. XVIII.]

THE AMERICAN RAILROAD JOURNAL is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

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KITE'S Patent Safety Beam. (See Adv.)  
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W. R. CASEY, CIVIL ENGINEER, NO. 23 Chambers street, New York, will make surveys, estimates of cost and reports for railways, canals, roads, docks, wharves, dams and bridges of every description, with plans and specifications. He will also act as agent for the sale or purchase of machinery, and of patent rights for improvements relating to public works.

#### KITE'S PATENT SAFETY BEAM.

MESSRS. EDITORS.—

As your Journal is devoted to the benefit of the public in general I feel desirous to communicate to you for publication the following circumstance of no inconsiderable importance, which occurred some few days since on the Philadelphia, Wilmington and Baltimore railroad.

On the passage of the evening train of cars from Philadelphia to this city, an axle of our large 8 wheeled passenger car was broken, but from the particular plan of the construction, the accident was entirely unknown to any of the passengers, or, in fact, to the conductor himself, until the train, (as was supposed from some circumstances attending the case,) had passed several miles in advance of the place where the accident occurred, whereas had the car been constructed on the common plan the same kind of accident would unavoidably have much injured it, perhaps thrown the whole train off the track, and seriously injured, if not killed many of the passengers.

Wilmington, Del., Sept. 28, 1840.

The undersigned takes pleasure in attesting to the value of Mr. Joseph S. Kite's invention of the Safety Beam Axle and Hub for railroad cars. They have for some time been applied to passenger cars on this road, and experience has tested that they fully accomplish the object intended. Several instances of the fracture of axles have occurred, and in such the cars have uniformly run the whole distance with entire safety. Had not this invention been used, serious accidents must have occurred.

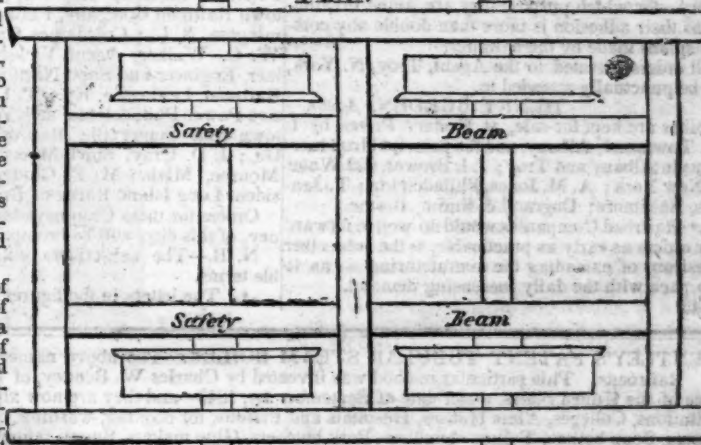
In short, we consider Mr. Kite's invention as completely successful in securing the safety of property and lives in railroad travelling, and should be used on all railroads in the country.

JOHN FRAZER, Agent,

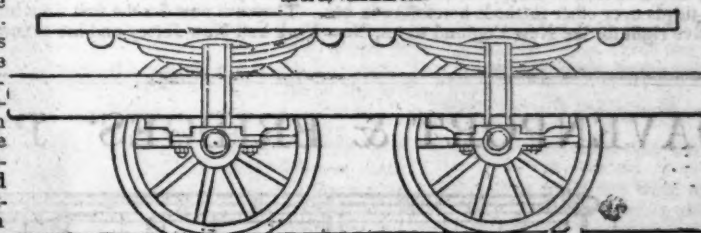
GEORGE CRAIG, Superintendent,

A model of the above improvement is to be seen at the New Jersey railroad and transportation office, No. 1 Hanover st., N. York.

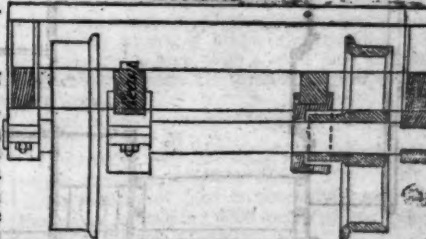
PLAN



ELEVATION



Section



**PATENT HAMMERED RAILROAD, SHIP and Boat Spikes.** The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, Agent.

Albany Iron and Nail Works, Troy, N. Y.  
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co. Boston. ja45

**PATENT RAILROAD, SHIP AND BOAT Spikes.** The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York, will be punctually attended to.

HENRY BURDEN, Agent.

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

\*\*\* Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

## FRENCH AND HAIRD'S PATENT SPARK ARRESTER.

**TO THOSE INTERESTED IN** Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

E. A. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendent Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendent Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Cray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

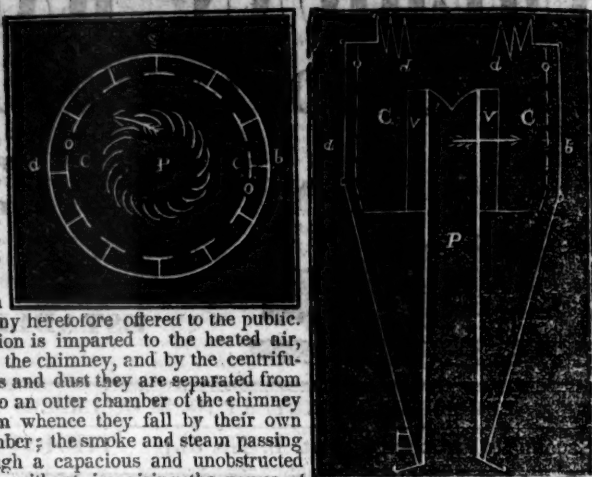
Orders for these Chimneys and Arresters, addressed to the subscribers, or to Messrs. Baldwin & Whitney, of this city, will be promptly executed.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

\*\*\* The letters in the figures refer to the article given in the Journal of June, 1844.

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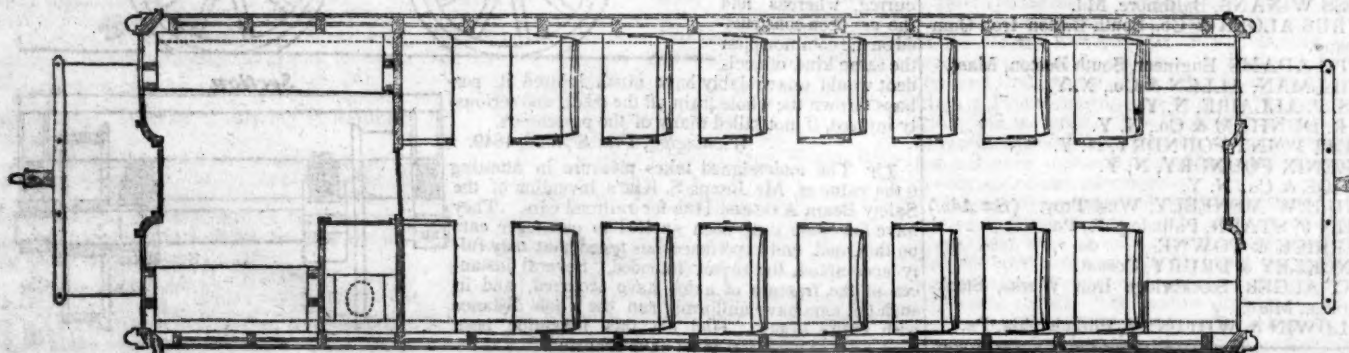


**BENTLEY'S PATENT TUBULAR STEAM BOILER.** The above named Boiler is similar in principle to the Locomotive boilers in use on our Railroads. This particular method was invented by Charles W. Bentley, of Baltimore, Md., who has obtained a patent for the same from the Patent Office of the United States, under date of September 1st, 1843—and they are now already in successful operation in several of our larger Hotels and Public Institutions, Colleges, Alms Houses, Hospitals and Prisons, for cooking, washing, etc.; for Bath houses, Hatters, Silk, Cotton and Woollen Dyers, Morocco dressers, Soap boilers, Tallow chandlers, Pork butchers, Glue makers, Sugar refiners, Farmers, Distillers, Cotton and Woollen mills, Warming Buildings, and for Propelling Power, etc., etc.; and thus far have given the most entire satisfaction, may be had of D. K. MINOR, 23 Chambers st. New York.

The article is complete in itself, occupies but little space, is perfectly portable, and requires no brick work, not even to stand upon. It is valuable not only in the saving of time and labor, but in the economy of fuel, as it has been ascertained by accurate measurement, that the saving in that article is fully two-thirds over other methods heretofore in use. They are now for the first time introduced into New York and Boston by the subscriber, who has the exclusive right for the New England states, New York and New Jersey, and are manufactured by

CURTIS & RANDALL, Boston; and by  
FORCE, GREEN & CO. New York.

## DAVENPORT & BRIDGES' PATENT CAR AND TRUCK.



DAVENPORT & BRIDGES CONTINUE TO MANUFACTURE TO ORDER, AT THEIR WORKS, IN CAMBRIDGEPORT, MASS. Passenger and Freight Cars of every description, and of the most improved pattern. They also furnish Snow Ploughs and Chilled Wheels of any pattern, and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices. All order punctually executed and forwarded to any part of the country. Our Works are within fifteen minutes ride from State street, Boston—coaches pass every fifteen minutes.



**RAILROAD IRON AND LOCOMOTIVE**  
Tyres imported to order and constantly on hand  
by **A. & G. RALSTON**  
Mar. 20th 4 South Front St., Philadelphia.

**THE NEWCASTLE MANUFACTURING**  
Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.  
**ANDREW C. GRAY,**  
ja45 President of the Newcastle Manuf. Co.

**CUSHMAN'S COMPOUND IRON RAILS.**  
etc. The Subscriber having made important improvements in the construction of rails, mode of guarding against accidents from insecure joints, etc.—respectfully offers to dispose of Company, State Rights, etc., under the privileges of letters patent to Railroad Companies, Iron Founders, and others interested in the works to which the same relate. Companies reconstructing their tracks now have an opportunity of improving their roads on terms very advantageous to the varied interests connected with their construction and operation; roads having in use flat bar rails are particularly interested, as such are permanently available by the plan.

**W. Mc. CUSHMAN, Civil Engineer,**  
Albany, N. Y.

Mr. C. also announces that Railroads, and other works pertaining to the profession, may be constructed under his advice or personal supervision. Applications must be post paid.

**TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.**

#### PASCAL IRON WORKS.

#### WELDED WROUGHT IRON TUBES

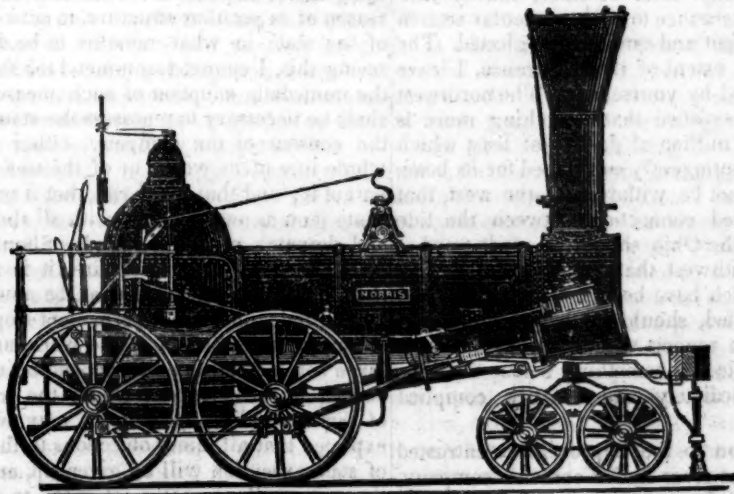
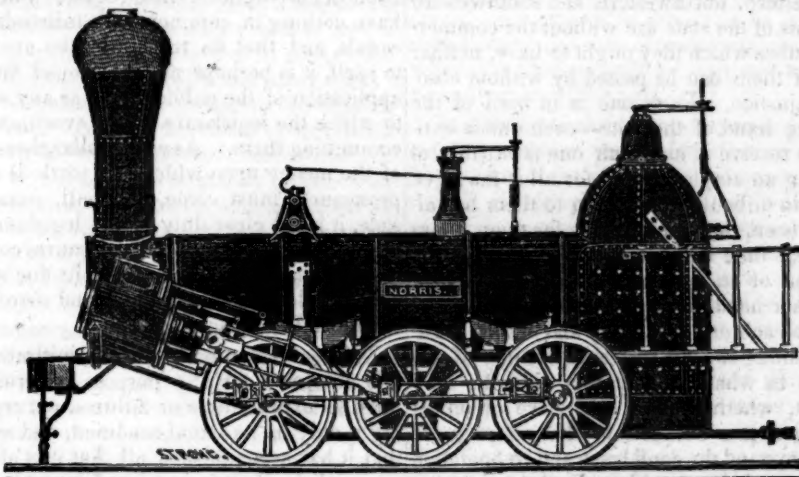
From 4 inches to 1 in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T, L, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by  
**MORRIS, TASKER & MORRIS.**  
Warehouse S. E. Corner of Third & Walnut Streets,  
**PHILADELPHIA.**

## NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.



**MANUFACTURE** their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15 inches Diameter of Cylinder,	× 20 inches Stroke.
"	2,	14	" " " × 24 " "
"	3,	14½	" " " × 20 " "
"	4,	12½	" " " × 20 " "
"	5,	11½	" " " × 20 " "
"	6,	10½	" " " × 18 " "

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion. Castings of all kinds made to order: and they call attention to their Chilled Wheels for the Trucks of Locomotives, Tenders and Cars.

**NORRIS, BROTHERS.**

**RAILROAD IRON.—THE MARYLAND AND NEW YORK IRON AND Coal Company** are now prepared to make contracts for Rails of all kinds. Address the Subscriber, at Jennon's Run, Alleghany County, Maryland.  
**WILLIAM YOUNG,**  
President.

**TO IRON MASTERS.—FOR SALE.—MILL SITES** in the immediate neighborhood of **Biluminous Coal and Iron Ore**, of the first quality, at Ralston, Lycoming Co., Pa. This is the nearest point to tide water where such coal and ore are found together, and the communication is complete with Philadelphia and Baltimore by canals and railways. The interest on the cost of water power and lot is all that will be required for many years the coal will not cost more than \$1 to \$1.25 at the mill sites, without any trouble on the part of the manufacturer; rich iron ore may be laid down still more cheaply at the works; and, taken together, these sites offer remarkable advantages to practical manufacturers with small capital. For pamphlets, descriptive of the property, and further information, apply to Archibald McIntyre, Albany, to Archibald Robertson, Philadelphia, or to the undersigned, at No. 23 Chambers street, New York, where may be seen specimens of the coal and ore.

**W. R. CASEY, Civil Engineer,**

**VALUABLE PROPERTY ON THE MILL Dam For Sale.** A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 feet, with lathes, work benches, &c.

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side of Parker st., containing 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to **HENRY ANDREWS, 43 State st.**, or to **CURTIS, LEAVENS & CO., 106 State st.**, Boston, or to **A. & G. RALSTON & Co., Philadelphia.** ja45

**CYRUS ALGER & CO., South Boston Iron Company.**



The following extract from the late message of Gov. McDowell, of Virginia, is truly gratifying to those who have so long advocated the *better improvement* of the age. The preference he exhibits for railways, carries great weight with it, as the merits of railways compared with canals, has been fully discussed by the press in Virginia, at public meetings called for that purpose. It comes very opportune for the reflection of our executive and the next legislature. Virginia caught the canal mania from the success of New York with the Erie canal. Near \$7,000,000 has been expended on the James river canal, and \$12,000,000 on the Chesapeake and Ohio. Neither of these works have yielded any return for so large an outlay. It is now reduced to a certainty, that a great central railway, through Virginia, will, with the aid of the Baltimore and Ohio railroad, supercede both these canals.

We have two lateral canals in this state, on which \$6,000,000 have been expended, requiring \$3 to \$4,000,000 to complete them. Will the state aid a railway from Rome to Watertown and Cape Vincent, in place of the Black river canal, with *half a million*, to get clear of a bad bargain; and say a *million* to the Attica and Hornellville railway, to supercede the Genesee valley canal, and thus save millions of dollars, as railways are destined to supercede both the above mentioned works.

"The connection, also, between this subject and the military defence of the state, always apparent, and always felt, has become stronger and more admonitory by far since the successful introduction of steam vessels upon the sea; an event which is destined to affect the warfare more radically than the commerce of nations, and one which it is highly important for us and all others to consider and provide for who have a maritime border to be defended. Happily for Virginia, in this matter of defence, she is invulnerable except from the sea. Perfectly secure on the side of the Allegheny against all the world, and scarcely less so on the right and left through the power of contiguous states, the Chesapeake and its estuary waters are the only inlets by which a foreign enemy can ever approach her.—Here, then, on these, and on the margin of these, are to be found her battle fields. Unassailable by any but a naval power, should that power be Great Britain, with her North American possessions as places from which she could descend upon us with all the certainty, as to time, of exact calculation, she would no doubt rely upon her war steamers as her engines of assault, and with these could effect so rapid a concentration of her force upon our ocean border, as to compel us to be always provided with an army in garrison adequate to any emergency, unless we had an inland power of concentration for our own forces which was equal to hers. Such a power, would a well arranged and connected system of internal improvement become. With such a system pervading the state, and accessible at all points for every description of necessary supply, the state itself would become, in effect, an extended military camp, with the faculty of immediately combining her whole disposable power of men and means wherever and whenever her purposes of defence might require. Looking at this as one of the triumphant and conservative

results of the policy in question, it is undeniable that however exclusive and local its ordinary benefits may be thought to be, here at least is one vital particular in which the benefit will be acknowledged by the judgment and patriotism of all to belong to the state. Hence, too, it seems, that the Atlantic and tide water section, assumed to be the most independent of all others of this policy, has yet an eventual interest in it the greatest of all, for there is no other to which its succor can ever be so helpful in that last extremity which casts life and property, and everything which is precious to a people, upon the hazards of the sword.

In order to carry these views into anything like a corresponding effect, I could not present to your consideration a narrower range of internal improvement than that which I have heretofore recommended. So long as the western, northwestern and southwestern portions of the state are without the commercial outlets which they ought to have, neither one of them can be passed by without absolute injustice. Each one is in need of the helping hand of the state—each one is entitled to receive it, and each one is capable of making an ample requital for all it may get. A main difficulty in relation to them has always been, how to provide for them all at the same time without hazarding too far the creation of an oppressive debt, or how, on the other hand, to apply the resources of the state to each one separately and in turn without exciting the distrust and hostility of the rest? In whatever way this difficulty may be met, whether by a successive or united provision, it is still certain that no measure can command the confidence and co-operation which are indispensable to final success, that do not, in some form or other, convey a satisfactory assurance to each particular section that it will not and cannot be neglected. The nature and extent of that assurance, I leave to be devised by yourselves. The northwest should be satisfied that if nothing more is given, the million of dollars at least which has been contingently subscribed for its benefit, should not be withdrawn—the west, that the promised connection between the tide water and the Ohio should be made good—and the southwest, that its many and its just claims, which have been so long and so injuriously denied, should be denied no longer, and that the request which it now makes, if not substituted by something better, shall be fully, immediately and heartily complied with.

In relation to the improvement entrusted to the James river and Kanawha company, I regret to inform you that it is in no better situation, as to its progress, than it was a year ago, nor likely to be in any better one, in that respect, a year hence than it is now, unless the company shall be supplied with other funds than its own to go on with its work. It is now upwards of three years since all operations upon this line above Lynchburg have ceased, and ceased for want of means to do more. The means the company cannot raise upon its own responsibility, nor out of any property which be-

longs to it. It is without funds beyond its daily liabilities, without property to convert into funds, without credit to borrow them upon, with a hundred and forty-six miles only completed of the 480 committed to its charge, and with but a single year remaining of its chartered time to complete the residue; thus situated, it can hardly be doubted that any further reliance upon it to prosecute and finish its work is a mere illusion, which could end only in disappointment and delay. The whole dependence of this company for some time before it stopped its operations was, in some form or other, upon the aid of the state, its whole dependence now for the continuance of these operations, is upon the same aid. If it is granted, the company becomes neither more nor less than the agent of the state for the management of its money, and in this light, considering that it is mainly a corporation of corporations, whose several functions have nothing in common with railroads and canals, and that its responsibilities are only to itself, it is perhaps as little suited for the application of the public funds, as any agent to which the legislature could ever think of committing them. As every dollar, therefore, of the money upon which this work is to be prosecuted, must come, if at all, from the state, it is the clear duty of the legislature to reserve to itself the direct and entire control of all it may grant, and secure its due application under the most public and searching responsibility it can establish.

Without adverting to the administration of this company for any purpose of criticism upon its expenditures or failures, but regarding it only in its actual condition, and seeing that it has accomplished all that it is able to accomplish, that it is powerless to do anything more, and that it is radically unfit, by reason of its peculiar structure, to act as agent of the state in what remains to be done—seeing this, I cannot recommend too strongly the immediate adoption of such measures as shall be necessary to repossess the state, with the consent of the company, either of the whole line of its work, or of the unfinished part of it; and that to the end, that it may execute it on its own account, with all the vigor and despatch at its command. Should this be declined by the legislature, it is nearly certain, from anything that can be now seen, that an indefinite, if not permanent stop must be put to the extension of the work, and the large commercial interests depending upon it be thereby abandoned. Under the pressure of this overruling necessity, it may well be expected that all minor objections to the plan of state execution will be given up, and that the state will promptly interpose to protect and save herself. The work, in all its necessity, magnitude and value, is emphatically her own work, and her utmost exertions should be freely given to carry it through.

By what mode of improvement, however, whether by railroad, canal, or some other, this object can be best accomplished, is a question of some difficulty, and one upon which a few remarks may with propriety be offered.

Having examined this question with a



good deal of care, I am satisfied that a railway, all things considered, is to be preferred; that it will cost the least—pay the most in return—accommodate the best—have the most to gain by the progress of mechanical invention, and when completed will best promote the general purposes of moral as well as physical improvement. These general points, embracing substantially all that is wanted in any plan of improvement, I submit to your judgment in much confidence, that the more they are examined the more they will be verified. Without illustrating that of cost upon comparative data, it is evident in the first place, that as a railroad can accommodate itself to the country over which it is to be taken, in a way quite impossible to a canal, it has in this circumstance a far greater command than the other over its cost of construction. Besides this, it is undeniable, that the cost of an improvement as a financial question, or question in state economy, depends more really and truly upon it than it does upon the amount of the expenditure itself. Judged, therefore, by this definitive test, the true question of cost which is at issue between these respective plans of improvement is, which will afford the best return upon its outlay, or which, in other words, for it is the same thing, will best meet and best answer the general wants of transportation? To this the reply is obvious, that the improvement which is intended to meet and answer these wants, must be commensurate with them, and as they extend to the transportation of persons as well as of property, it must be suitable and sufficient for both. If it is not suitable for that of persons, or so much less so than neighboring and rival improvements, as to be rejected for them, then it is at once deprived of its most essential means of usefulness and support, for all commodities requiring transportation none require it so much as persons, and of all others none pay to the carrier so certain and so high a profit upon so small an amount of bulk, insurance and risk. Any improvement which will lose these, will lose the very best of its customers, and will be in constant danger, besides, of losing the power to maintain itself. Indeed the uniform reliance of most works intended for public accommodation upon passengers for its principal revenue, is such and so well ascertained, that no costly and extended one depending for the most part upon the business created by itself, it may be confidently said, could be supported without them. In order, therefore, to answer public wants, and to sustain itself, the improvement which is to connect the James with the Ohio river, must afford to the travel between that river and the Atlantic as desirable and decided advantages as any other improvement, or this great and indemnifying source of profit must be chiefly if not entirely lost. But this not even the canal could afford, were it ever so perfectly executed, and were it at this hour actually open for use in connection with steamboat navigation on the Kanawha river. Were it so, it would require about five days to make the passage from that river to Richmond, while it would require about three, or

three and a half days to make it by Wheeling through Baltimore and Philadelphia to New York from the same point of departure. This, in most cases, would be decisive with the traveller in turning him from ours to another route. If, however, a railroad were made upon the unfinished line of the James river and Kanawha company to Point Pleasant, or to Guyandotte, it would afford the shortest connection in time by which to reach New York through Richmond, and would no doubt secure the travel and the profit upon it which the canal would lose. But that is not all; by securing travel, freight is also secured. This is the peculiar and controlling principle in railroad operations. Having no superior for passenger transportation, the railway relies upon that for its expenses, and is thus enabled, where the reliance is a safe one, to relieve the freight out of the profits of the travel, and especially would it be enabled thus to do in the case of a state improvement where the charges will be restricted to mere remuneration and repair.

In addition to this it may be remarked, that it is the peculiar and happy faculty of this kind of road that it can be adapted to any rate of movement, and any one of burden, and with an apparent capacity under the progress of mechanical invention for an almost indefinite increase in the degree of both. While the rate of passenger speed is checked only by the fears of the passenger, the rate of burden transportation has been gradually raised from some three or four times the weight of the engine to some twenty times that weight, and the engine itself increased from four or five tons to fifteen or more, thus showing a progressive power of accommodation for all uses, at least as great as those uses can ever require.

At what point on the line of the James river and Kanawha company, the railroad, if adopted, should begin, and by what particular route it should be conducted, are controverted questions of exciting local interests, which I commit to you in the perfect confidence that there will be found justice, disinterestedness and firmness enough in your body to settle them aright. No people has ever been more admonished by bitter experience than we have been, to the exercise upon questions of this kind of a genuine spirit of mutual liberality and concession. Without this spirit, rely upon it that nothing will be accomplished; section will contend against section, and the commonwealth will continue to be what it has long been, impoverished by the very multitude of its blessings.

In relation to the funds which any legislation upon this subject may require, I respectfully submit it as a suggestion, that they may be obtained, in a great and perhaps sufficient degree, by a simple recurrence to the rate of taxation which was fixed by the revenue law of March, 1843."

*Cayuga and Susquehanna Railroad.*—It will be seen by a notice in this paper, that this company will apply to the legislature for an increase of its capital stock and a change of location of a part of the route of

its road. We are happy to learn that it is the determination of the company to proceed promptly to place this road in a proper condition as the great connecting link between the northern and southern lines. The route at the Ithaca termination will be varied, so as to proceed from the village to the summit, without stationary power; and for this purpose competent engineers are already engaged, and have arrived here to make the necessary surveys. The track will be entirely relaid with a heavy rail, and corresponding in width with the New York and Erie railroad. So when the Erie railroad is completed to Owego, the cars can at once run from the steamboat landing on the Cayuga, to the New York termination of that road. A very little expense will establish and keep up the connection of the two great lines, by this crossing, in winter as well as summer. It will be in advance of all other similar enterprises, the most feasible and least expensive. Men of stability and enterprise have taken it in hand, and the work, we feel assured will be done.

We find the foregoing statement in the *Ithaca Chronicle* of 26th Nov., in relation to the reconstruction of the old Ithaca and Owego railroad, which is now called the Cayuga and Susquehanna railroad. We like this early movement on the part of the citizens of Ithaca. They have always been noted for their enterprise, and this is an indication that they intend to sustain their reputation.

We wish "Raymbault" could revisit the "Soo" again about ten years hence, when he would find a magnificent ship canal there with locks which would contain a fleet of "bark canoes," or pass a steamer of the first class.

*Sault de Ste. Marie.*—"The falls of St. Mary, or the 'Soo,' as here called, are about eight hours of steam sailing from Mackinaw, and a steamer runs regularly between the places.

"It is now two hundred and four years since Raymbault first saw the falls of St. Mary. In a birch bark canoe, he led the first expedition west—he passed over 'the beautifully clear waters, and between the thickly clustering archipelagoes of lake Huron,' and ascending the river, reached the rapids, at the foot of lake Superior, October 4, 1641. He found there 2000 Indians.

"In 1665, Father Claude Allouez reached the 'Soo.' He admired the beautiful river with its woody isles, and inviting bays—and informs us that the savages worshipped the lake as a divinity. He sailed along the great lake, passed the 'pictured rocks,' built a chapel, and we are told the Indians, who never before had seen a white man, came to gaze upon him, and his picture of hell and the last judgment; and he taught them to chaunt the pater and the ave.

"In 1671, a congress of the nations assembled here—it was a most singular and extraordinary congress of native Americans, and brilliantly clad officers from the veteran armies of France. On this spot, one hundred and seventy-four years ago were congregated the envoys of the wild republicans, from the head springs of the St. Lawrence, the Mis-



Mississippi and the Red river, and formally acknowledged themselves under the protection of the French king. The imposing ceremony is thus described: 'A cross of cedar was raised amid the groves of maple, pine and hemlock that are strangely intermingled on the beautiful banks of the St. Mary, where the bounding river lashes its waters into snowy whiteness, as they hurry past the dark evergreen of the tufted islands in the channel,' the zealous missionaries and steel clad soldiery bowed before the cross, and chaunted to its glory,

"The banners of Heaven's King advance,  
The mystery of the cross shines forth.

"As early as 1688, the 'Soo' was a place of great and favorite resort by the traders and voyagers on their way to Mackinaw from Lake Superior.

"At this present time this ancient congress ground of the aborigines, has a fort, a fur trading establishment, a small cluster of dwellings, and a mixed population of the French, English and half breeds—in all not exceeding one half the number of native Americans found here 200 years ago.

"As Mackinaw was the head quarters, and the 'Soo' a favorite stopping place for the traders a century ago, so now, in 1845, is the Isle of Beauty the rendezvous, and St. Mary's the resting place of eager, enterprising and scientific adventurers."—*Cleveland Her.*

#### Plank Roads.

This kind of road has, we understand, been constructed in Canada West to a considerable extent, and with entire success. They must be very suitable for lateral roads, branching off from railroads, connecting villages and towns of comparatively small business with more important places, and great thoroughfares; and we are pleased to learn that an experiment is to be made with them in connection with so important a place as from Syracuse and Salina northward. Its success under the direction of Messrs. Alvord and Geddes will insure the construction of other roads on a similar plan. We shall watch and chronicle its progress, and if it answers the anticipations of its friends, we shall give our best efforts in aid of the construction of others on the same plan. We take the following from the Oswego Palladium; which says that:

Pursuant to a request of the directors of this road, Thomas G. Alvord and George Geddes, of Syracuse, have recently visited Canada, for the purpose of examining the plank road in operation there. The result of their observations appear at length in the last Onondaga Standard, and contains much interesting information on the subject. The following paragraph seems to be the substance of their conclusions, and we insert it for the benefit of such as feel an interest in the construction of that work:

"In conclusion we think it is demonstrated beyond a doubt, that an eight feet track of plank road makes a more substantial, solid and permanent roadbed than any other greater width can make: that two stringers, stout enough to hold a pin of size sufficient to keep the plank in their place is all that is necessary; that great care and precaution should be used in so preparing the earth that the plank should at all points bear equally

upon the stringers and earth; that the road sides should be so graded as to be elevated slightly at all times above the ends of the plank; that the plank should be kept covered with some material of earth (sand in all instances if it can be procured) to the permanent depth of at least one half of an inch;—that no wain of over an inch should be permitted; that what is termed a shaky plank can be used, provided the shake or crack approaches a perpendicular split; and that plank four inches in thickness are preferable to a less thickness. It may be necessary here to give reasons for these last opinions. A four inch plank, of course, is stiffer than one of less thickness. In getting to its place, no matter how well you prepare the ground, there will be more or less strength and width-way strain on the plank, which must effect a three inch plank to such an extent as to hasten its wear; not so, or at least to so great an extent, will a four inch plank be effected; so when you have worn off the first inch of your four inch plank, the remaining three inches having found a solid and firm bed, will, in our opinion, do longer service by far than if it had originally been laid three inches thick. We are also of the opinion that, for reasons which we deem perfectly obvious, no plank should be laid more than twelve or less than six inches wide."

The Mining Journal, of 8th November, says that,

"Notwithstanding the reaction and dullness in the share market, the price of iron has remained firm during the week, and with all their scheming, speculators for a fall have been unable to drive down prices—in fact, we think, 'Othello's occupations' gone"—for the iron masters begin to see clearly through the various schemes resorted to, for the purpose of influencing the market, and producing unfavorable results of which they may take advantage, and are, therefore, extremely cautious how they pay attention to rumors and reports generally set on foot by jobbers and speculators. Full of orders, which upon an average, will take the large houses twelve months to execute, they remain firm: and though, notwithstanding, in addition to the home trade, many export orders have come in, the price has not advanced; there has not even been a tendency to a decline.—Scotch pig has sold at from 80s. to 83s., and in some few cases as high as 85s.; the average quotation may, however, be taken at 83s. Welsh pig from 105s. to 115s.; railway bars, etc., £11 to £12: and common bar in Wales £9 to £9 10s.; some houses refusing orders at these figures. From the tight state of the money market, and the high price of provisions, it is expected prices will vary but little between the present period and the close of the year. It is calculated that 2,000,000 tons of railway iron will be required for undertakings which are already commenced, or which are pretty certain of being sanctioned, exclusive of orders for exportation to France, Belgium, etc. In the neighborhood of all the iron works, all is activity and plenty."

From the preceding, it will be seen by our iron manufacturers that they have every inducement to push their operations to the utmost of their ability;

and also for capitalists to embark at once in this important branch of business. We must have iron in large quantities. Where shall we get it if we do not make it?

The following is from the Mining Journal of 15th November.

**Extension in the Application of Iron in France—Iron Railway Carriages—Iron Ships.**—In Belgium, (says our Paris letter,) an iron carriage has been constructed on one of the railways; and though, it may turn out dearer at first than ordinary carriages, it is believed will eventually be found cheaper. If so, iron carriages on railways may become the order of the day: especially as it is believed they present greater security and more advantages, in every respect, than wooden ones. In France, and particularly in Paris, iron is becoming every day more and more extensively employed in place of wood for building; and as the French have always been accustomed to use much more wood in their edifices than we have, the demand for iron will be immensely increased, even if it only partially take the place of wood in the construction of houses and buildings. In France, one-half, or at least one-fourth of the bridges under and over railways will have to be constructed of iron. Moreover the government has determined that, in the course of a short time, several steamships of iron, of a large size, shall be constructed; and even private merchants have begun to have their vessels built of iron. Add all this to the enormous demand for rails, etc., for the railways, and you will see that, on comparing the annual production of France, the position I have taken up—that France cannot supply her demand for iron, and that she must apply to England to help her—is correct. I might have added, that it is seriously proposed to do away with wooden sleepers and blocks of stone, as supporters for the rails on the *chemins de fer*, substituting iron; but the present demand is great enough, without counting probabilities. Yet, notwithstanding the undeniable incapacity of France to supply the iron of which she has need, there are newspapers which cry that, cost what it may, she must not apply to 'perfidious Albion!' The Mines Reunies company has taken on lease, for eighty-three years, the railway from St Etienne to Lyons. The Mining Journal had previously announced that the same company had taken on lease the Givers railway."

**Price of Iron in France.**—The price of white cast metal is on the rise. The half-rock of Blaise is now selling, delivered at St. Dizier, at £6 18s. the 100 kilos, or 2 cwts.; those of the Marne, at £6 18s. at the furnaces; do. rock, £7 at the furnaces. There is great activity prevailing in all the cast metal and iron furnaces; but the prices appear too high for the trade, and it is not until there are more extensive orders, that another rise will take place. The greater part of the iron masters have sold their produce at three months. The iron masters of the forges of the Marne have entered into contracts for delivering their half-rock iron at the rate of £14 15s. to £15, at St Dizier, six months' credit, and 3 per cent. discount."



## AMERICAN STATE WORKS AND CANALS, ETC.

STATE WORKS.		Length in miles.	Cost.	1843.		1844.		The State Canals are all 4 feet deep, and the locks are 13 to 17 feet wide, and 80 to 90 feet in length.								
				Income.	Expend.	Income.	Expen									
N. Y.	1 Black river canal.....	35	1,524,967					The six millions paid to the canal fund from auction and salt duties are not included in the estimate of cost. The Genesee valley and the Black river canals require large sums for their completion, the interest of which additional sum is much greater than the estimated gross income of these canals when finished. The sums required to complete these two canals are \$2,000,000 and \$600,000, making their total cost when finished \$5,553,000 and \$2,409,000; an expenditure incurred on estimated incomes (admitted to be liberal,) of \$39,000 and \$14,000 respectively.  The total receipts from the works of Pennsylvania for 1843 were \$1,019,401; for 1844 \$1,164,326, and the cost about 30 millions.  The receipts for 1844 were as follows: <table><tr><td>Canal tolls,</td><td>578,404</td></tr><tr><td>Railroad tolls,</td><td>252,855</td></tr><tr><td>Motive power,</td><td>319,590</td></tr><tr><td>Trucks,</td><td>13,477</td></tr></table> of which \$585,922 is from 118 miles of railroad, and \$578,404 from 550 miles of canal.  The canals of Ohio are supported by a property tax of 54 mills on the dollar. There are 853 miles of canal in the State, which yielded in 1843 \$471,623, and in 1844 \$515,393, the cost, 1st Jan. '43 being \$15,577,233. The increase of '44 over '43 is only \$43,770, though the year '44 has exhibited a greater increase throughout the country than ever before known.  These 21 millions on sundry works yield no net income whatever.  The central railroad yields above 6 per cent., and is the only State work—the Erie canal excepted—which is able to stand alone.	Canal tolls,	578,404	Railroad tolls,	252,855	Motive power,	319,590	Trucks,	13,477
Canal tolls,	578,404															
Railroad tolls,	252,855															
Motive power,	319,590															
Trucks,	13,477															
"	2 Cayuga and Seneca.....	21	837,000	16,557	10,953	24,618	14,443									
"	3 Champlain canal.....	64	1,351,604	102,308		116,739										
"	4 Chemung.....	23	684,600	8,140	14,486	14,385	12,740									
"	5 Chenango.....	97	2,420,000	16,195	15,967	22,179	15,960									
"	6 Crooked lake.....	8	156,777	461	3,674	1,498	3,951									
"	7 Erie—enlargement of.....	363	12,648,852	1,880,316												
"	8 Genesee valley.....	120	3,739,000													
"	9 52 miles opened, cost \$1,500,000.....			12,292	13,819	19,641	15,557									
"	10 Oneida lake.....	6	50,000	225	2,239	621	1,636									
Pa.	11 Oswego.....	38	566,437	20,147	22,742	56,165	28,599									
"	12 Beaver division canal.....	25				7,381	5,386									
"	13 Delaware canal.....	60				109,278	22,870									
"	14 French creek.....	45														
"	15 Seneca river towing path.....		69,276			381										
"	16 Columbia railroad.....	82½	4,204,969			443,336	205,067									
"	17 Eastern division.....	36				179,781	138,915									
"	18 Juniata canal.....	93														
"	19 Portage railroad.....	36½	1,828,461			351,102	248,943									
"	20 Western division canal.....	105														
"	21 North branch Susquehanna canal.....	73														
"	22 West ".....	72				101,949	57,633									
Ohio	23 Hocking canal.....	56	975,130	4,737		5,286	4,139									
"	24 Miami canal.....	85	1,660,742	68,640	38,826	77,844	22,341									
"	25 Miami extension.....	105	2,856,636	8,291		12,723	14,741									
"	26 Miami northern division.....	35	322,000			unfin'd.										
"	27 Muskingum.....	91	1,627,318	23,167		29,385	15,027									
"	28 Ohio.....	334	4,600,000	322,754	123,398	343,711	113,210									
"	29 Wabash.....	91	3,028,340	35,922	6,400	49,589	12,817									
"	30 Walhonding.....	25	607,269	838	39,005	1,977	1,238									
"	31 Western road.....	31	255,015	7,254	1,782	8,747	2,929									
Ind.	32 Sundry works.....		11,000,000													
"	33 Maumee canal.....															
Ill.	34 Sundry works.....		10,000,000													
Mich.	35 Central railroad.....	110	1,842,308	149,987	75,960	211,170	89,420									
"	36 Southern railroad.....	68	936,295	24,064	7,907	60,341	70,000									

CANALS.		Length in miles.	Cost.	1843.		Div. per cent.	1844.		Div. per cent.	Value of stock.	REMARKS.
				Gross.	Nett.		Gross.	Nett.			
	Blackstone.....										<p>We may, perhaps, at some future time be enabled to give the particulars of all these canals.</p> <p>The Chesapeake and Ohio canal is not yet completed to the coal mines, hence its trifling income.</p> <p>The enlargement of the Schuylkill canal has been commenced.</p> <p>The Morris canal was lately sold for one million, about one-fourth of its cost.</p>
	Bald Eagle Navigation.....	25	400,000								
	Beaver and Sandy, (part).....		1,000,000								
	Charleston, (S. C.).....										
	Chesapeake and Ohio.....	184	12,370,470	47,637							
	Conestoga.....	12	300,000								
	Delaware and Chesapeake.....	13								26	
	Schuylkill.....	108	3,500,000	279,795	102,221		190,693	120,624		31	
	Farmington.....										
	James river and Keokawa.....										
	Middlesex.....										
	Port Deposit.....	10	200,000								
	Delaware and Raritan.....	43	2,900,000	99,623	53,327		131,411	84,455			
	Southwark.....		300,000								
	Tide Water.....	45	2,900,000								
	Union.....	80	2,000,000								
	Morris.....	101	1,000,000							26½	
	Dismal Swamp.....										

CANADIAN CANALS.		Length in miles.	No. of locks.	Lockage in feet.	Size of locks.			Width of canal.		Estimate.	Expended to Sept. 1843.	Income.	
					Length of chamber.	Width.	Depth on mitre sill.	Bottom.	Surface.			1843.	1844.
The Welland canal.....					feet.	feet.	feet.	feet.	feet.	3,948,572	2,485,572	64,658	
{ Main trunk from Port Colborne to Port Dalhousie.....		28	31	328	150	26 1-2	8 1-2	45	81				
{ Junction branch to Dunville.....		21	1	6	150	26 1-2	8 1-2	35	71				
{ Broad creek branch to Port Maitland.....		1 1-2	1	6	200	45	9	45	85				
The St. Lawrence canal.....													
{ Galops and Port Cardinal.....		2	2	7	200	45	9	50	90				
{ Rapid Plat.....		4	2	11 1-2	200	45	9	50	90	672,498	973		
{ Farren's point.....		3-4	1	3 1-2	200	45	9	50	90				
Cornwall, passing the Long Sault rapids.....		11 1-2	7	48	200	55	9	100	150	865,372	1,665,663		
Beauharnois, do. Coteau, Cedars and Cascades road.....		11 1-4	9	82 1-2	200	45	9	80	120	1,190,087	275,426		
Lachine, do. Lachine rapids.....		8 1-2	5	44 1-2	200	45	9	80	120	old canal.	400,000	29,288	
Enlargement of do.....										1,001,333	64,439		
Total from lake Erie to the sea.....		12	57	525									
Chambly.....		66	9	74½	120	24	6	36	60	200,000	440,000	1,409	

COAL COMPANIES.		Length in R. rd. Canals.	Cost.	1843.		Div. per cent.	1844.		Div. per cent.	Value of stock.	REMARKS.
				Gross.	Nett.		Gross.	Nett.			
	Delaware and Hudson.....	16 108	2,800,000	930,203	196,702	10				130	
	Lehigh.....	20 72	6,000,000							31	



AMERICAN RAILROADS.															
NAMES OF RAILROADS.		Length in miles.	Cost.	Loans and debts.	Number of shares.	Paid on share	1843. Income.		Div. per cent.	1844. Income.		Div. per cent.	1845. Income.		Div. per cent.
							Gross.	Nett.		Gross.	Nett.		Gross.	Nett.	
Maine.	1 Portland, Saco and Portsmouth.....	50	1,200,000				89,997	47,166	7	131,404	62,172	6			
N. Ham.	2 Concord.....	35	750,000									12			
Mass.	3 Boston and Maine.....	56	1,485,461				178,745	68,499	6	233,101	86,401	6			
	4 Boston and Maine extension.....	17	455,703	unfin.											
	5 Boston and Lowell.....	26	1,863,746				277,315	144,000	8	316,909	147,615	8			
	6 Boston and Providence.....	41	1,886,135	none.	18,600	100	233,388	110,823	6	282,701	156,109	6			
	7 Boston and Worcester.....	44	2,914,078				40,141	162,000	6	428,437	195,163	7			
	8 Berkshire.....	21	250,000	not stated				17,500	7	17,737					
	9 Charlestown branch.....		280,260						13	34,654	13,971	5			
	10 Eastern.....	54	2,388,631				279,563	140,595	6	337,238	227,920	8			
	11 Fitchburg.....	50	1,150,000	just op'n'd						42,759	26,835				
	12 Nashua and Lowell.....	14	380,000				84,079		8	94,588	34,944	10			
	13 New Bedford and Taunton.....	20	430,962				50,671	24,000	6	64,998	24,000	6			
	14 Northampton and Springfield.....		172,883	unfin.											
	15 Norwich and Worcester.....	66	2,290,000	900,000	16,535	100	162,336	24,871		230,674	99,464	3			
	16 Old Colony.....		87,820	unfin.											
	17 Stoughton branch.....	4	63,075	unfin.					8	96,687	20,000	8			
	18 Taunton branch.....	11	250,000					20,000							
	19 Vermont and Massachusetts.....														
	20 West Stockbridge.....	3	41,516		200	100						4			
	21 Western, (117 miles in Mass.).....	156	7,686,202	4,686,202	30,000		573,882	284,432		753,753	139,679	3			
	22 Worcester branch to Milbury.....		8,431	506											
	23 Housatonic, (10 months.).....	74	1,244,123							150,000					
Conn.	24 Hartford and New Haven.....	38	1,100,000	100,000	10,000	100						6			
	25 Hartford and Springfield.....	25	600,000	400,000	2,000	100									
	26 Stonington, (year ending 1st Sept.).....	48	2,600,000	650,000	13,000	100	113,889			154,724	79,845				
N. York.	27 Attica and Buffalo.....	31	336,211				45,896	7,522		73,248	48,033				
	28 Auburn and Rochester.....	78	1,796,342	200,000	14,000	100	189,693	112,000		237,667	152,007	6			
	29 Auburn and Syracuse.....	26	766,657		133		86,291	27,334		96,738	52,544	6			
	30 Buffalo and Niagara.....	22	200,000		1,500										
	31 Erie, (446 miles.).....		5,000,000												
	32 Erie, opened.....	53						48,000		126,020	59,075				
	33 Harlem.....	26	2,250,000	750,000	30,000					140,685	62,399				
	34 Hudson and Berkshire.....	31	575,613			50				35,029	1,789				
	35 Long Island.....	96	1,610,221	392,340	29,846					153,456	58,996				
	36 Mohawk and Hudson.....	17	1,317,893	400,000	10,000	100	69,948	58,780		79,804	45,763				
	37 Saratoga and Schenectady.....	22	303,658				42,242	3,000	1	34,666	8,455				
	38 Schenectady and Troy.....	20	640,800				28,043			32,646	6,365				
	39 Syracuse and Utica.....	53	1,115,897	none.	16,000	62	163,701	72,000		192,061	120,992	8			
	40 Tonawanda.....	43	727,332				76,227			114,177	75,865	5			
	41 Troy and Greenbush.....	6	180,000												
	42 Troy and Saratoga.....	25	475,801				44,325	21,000		38,502	9,971	2			
N. Jersey	43 Utica and Schenectady.....	78	2,168,165	none.	20,000	100	277,164	180,000	9	331,932	199,094	8			
	44 Camden and Amboy.....	61	3,200,000				682,832	383,880		784,191	404,956				
	45 Elizabethtown and Somerville.....	26	500,000												
	46 New Jersey.....	34	2,000,000												
	47 Paterson.....	16	500,000									6			
Penn.	48 Beaver Meadow.....	26	1,000,000												
	49 Cumberland Valley.....	46	1,250,000												
	50 Harrisburg and Lancaster.....	36	860,000	645,929									77,538	9,988	
	51 Hazleton branch.....	10	120,000												
	52 Little Schuylkill.....	29	900,000												
	53 Blossburg and Corning.....	40	600,000												
	54 Mauch Chunk.....	9	100,000												
	55 Buck Mountain.....	4	72,000												
	56 Minehill and Schuylkill Haven.....	19	396,117	25,000	7,019	50			12			12			
	57 Norristown.....	20	800,000												
	58 Philadelphia and Trenton.....	30	400,000												
	59 Pottsville and Danville.....	29	1,500,000												
	60 Reading.....	94	9,457,570	7,447,570	40,200	50				597,613	343,511				
	61 Schuylkill valley.....	10	1,000,000												
	62 Williamsport and Elmira.....	25	400,000				20,000								
	63 Philadelphia and Baltimore.....	93	4,400,000				43,043	200,000			210,000				
Delaware	64 Frenchtown.....	16	600,000												
Maryl'd	65 Baltimore and Ohio, (1st Oct.).....	188	7,742,410	1,153,709			575,235	279,402		658,620	346,946		738,603	374,762	3
	66 Baltimore and Washington.....	38	1,800,000				177,227	71,691		212,129	104,529		208,813	95,094	6
	67 Baltimore and Susquehanna.....	58	3,000,000												
	68 Wrightsville, York and Gettysburg.....	12	500,000												
Virginia	69 Greenville and Roanoke.....	18	284,433	37,544	2,000	100				25,368	6,074	3			
	70 Petersburg.....	63	969,880	63,000	7,690	100				122,871	72,898	6			
	71 Portsmouth and Roanoke.....	78	1,454,171												
	72 Richmond, Fredericks'g and Potomac.....	76	800,000							185,243	85,688				
	73 Richmond and Petersburg.....	22	700,000												
	74 Winchester and Potomac.....	32	500,000												
N. Car.	75 Raleigh and Gaston.....	84	1,360,000												
	76 Wilmington and Raleigh.....	161	1,800,000									5			
S. Car.	77 South Carolina.....	136													
	78 Columbia.....	66	5,671,452		34,410	75	201,464	77,456		532,871	140,196				
Georgia	79 Central.....	190	3,000,000	500,000	22,500	100	227,532	93,190		328,425	180,704				
	80 Georgia.....	147	2,650,000				248,026	158,207		248,096	147,523				
	81 Montgomery and West Point.....	89	500,000	170,000		100				35,000	15,000				
Kent'ky	82 Lexington and Ohio.....	40	450,000												
Ohio	83 Little Miami.....	40	400,000												
	84 Mad river.....	40	152,000												
Indiana	85 Madison and Indianapolis.....	56	212,000	50,000			22,110	8,639	8	39,031	10,065	9	24,984	3,280	
Canada	86 Champlain and St. Lawrence.....	15						12,000		58,000	24,000				



Correspondents will oblige us by sending in their communications by Monday morning at latest.

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### AMERICAN RAILROAD JOURNAL.

PUBLISHED BY D. K. MINOR, 23, Chambers street, N. Y.

Thursday, December 18, 1845.

#### THE COAL TRADE—SCHUYLKILL VALLEY.

The quantity sent this week by railroad is 10,464 which will be increased next week, if we are not visited with another snow storm.

The supply of anthracite coal sent to market in 1845 will vary little from two millions tons. In 1844, the quantity sent to market was 1,631,669 tons—increase in 1845, about 370,000 tons.

#### BY RAILROAD.

From Pottsville and Port Carbon—total.....	388,073
From Schuylkill Haven—total.....	382,669
From Port Clinton—total.....	21,019

Total by railroad.....	791,762
Total by canal.....	263,558

Total by railroad and canal.....1,055,321

MINEHILL AND SCHUYLKILL HAVEN RAILROAD—

total tons.....430,198

SCHUYLKILL VALLEY RAILROAD—total.....123,216

MILL CREEK RAILROAD—total.....92,718

MOUNT CARBON RAILROAD—total tons.....247,052

[Miners' Journal.]

WESTERN RAILROAD.—Receipts for week ending December 5.

	1845.	1844.
Passengers.....	\$5,658	\$4,620
Freight, etc.....	8,584	8,240

Total.....\$14,242 \$12,860

Net gain this week.....1,382

Net gain previously since Jan. '45.....55,425

Total gain.....56,807

Transactions of the Reading railroad for the month of November for three years:

	1843.	1844.	1845.
Business.....	\$54,695 80.	\$62,197 23.	\$125,946 52
Coal tons.....	34,821.	44,513.	88,799

The Eastern railroad has declared a semi-annual dividend of four per cent.

The Portland railroad has declared a semi-annual dividend of three per cent.

#### Rochester and Lockport Railroad.

The directors of the above company, at a meeting held in this city on the 25th ult., appointed Charles B. Stuart, Esq., of Rochester, chief engineer. Mr. Stuart is a gentleman whose scientific acquirements and large experience eminently fit him for the responsible station to which he is chosen. He has been engaged for fifteen years on various railroads in this and other states.

Last summer he was employed to construct the "Tonawanda Connection," through Rochester, a trust which he performed to the full satisfaction of all concerned.

Besides his appointment as chief engineer, Mr. Stuart is empowered to act as a commissioner for

the purpose of receiving subscriptions and transacting other important business connected with the proposed work.

We trust he will give the citizens of New York an opportunity to subscribe to the stock, as the construction of this road, and its connection with the Great Western, C. W., by a bridge is of great importance to New York, as well as to Albany and Boston, as it will give a winter communication to Canada and the west, uninterrupted by ice. We understand about \$250,000 of the stock to the road is already engaged, and its friends are fast taking up the balance. The entire stock of the bridge is engaged, conditioned upon procuring a charter this winter. Its cost will be about \$200,000—span 750 feet, placed 200 feet above the stream, and about 1½ miles below the falls, in full view of the cataract and the whirlpool.

#### Chemung Railroad.

The survey of the route of the Chemung railroad [for which a charter was obtained last winter, with a capital of \$250,000.] has been completed. It is to connect the head of Seneca lake with the New York and Erie railroad, and the Williamsport and Elmira railroad, at or near Elmira, in Chemung county, N. Y. The route surveyed intersects the N. York and Erie about five miles northwest of Elmira, and is 17½ miles from the head of the lake at Jefferson. The grades will not exceed those of the New York and Erie, and the estimated cost is \$235,000.

#### Our Foreign Correspondence.

We present to the consideration of our readers in this number another letter from our able and observing friend in London.

The information given, and the opinions expressed by him, in relation to the atmospheric railway, are in accordance with the opinions formed by us on the subject, after looking at it through the medium of the foreign journals, as it has been from time to time presented to our consideration; and we shall therefore give in the Journal at an early day one or two of the numerous plans, with illustrations, which have been presented for the consideration of the European public.

Like the railway system itself, the importance of the matter has brought numerous competitors into the field, and there are at this time many able minds engaged upon it; and from the advances already made, and the energy with which the investigations are prosecuted, we are led to believe that at no distant day it will assume a very different position in the estimation even of those able and independent minds which make it a rule to admit nothing in the way of improvement until it is fully established by experience.

The idea of our correspondent of adopting this mode of communication between the Atlantic and Pacific, across the isthmus of Darien, is both bold and new to us; and, though we were somewhat startled at first at the idea of crossing that neck of land, 70 miles in width, in about 100 minutes! yet we have already become quite familiar with, and reconciled to it—and are quite desirous to be one of the first party that makes the journey—on the condition, however, that they have good and sufficient breaks on the cars, in descending the western declivity of the isthmus, that the train may be sure not to run off at the further end of the track, into the Pacific!! In all seriousness we say, however, if the atmospheric lines now in course of construction, and in contemplation in England shall be successful—then shall we entirely approve of the proposition, and shall not hesitate to yield it all the aid—little

though it may be—of our feeble, instead of "influential" pen. We shall, at all events, not lose sight of, as we deem it, this vastly important subject, but watch the progress of the system, and if it is successful in England, endeavor to aid in its application to this line.

The great extent of roads chartered during the last session of parliament, and the enormous demand for other purposes, has carried up the price of rails to £12 per ton, delivered on board of ship in Wales, which is almost equivalent to a prohibition of exportation to this country, and it will, we hope, stimulate our own capitalists, and iron masters, to exert themselves to furnish an ample supply at an early day for our own use; and we are cheered with the indications of such a result which meet us in our present visit to the keystone state, as well as elsewhere, of which we hope to give some account soon. If we would extend our roads we must make preparations to supply our own iron, and especially, if the atmospheric system shall be adopted, as a much larger quantity will be required, which cannot be got abroad, if they carry out one quarter of their own projected works.

The demand for professional services, both engineering and legal, and public advertising, has been wonderful during the past autumn. Its like has never been, and we hope it may never again be, known.

We heartily concur with the writer in his good wishes for the employment of our American engineers, and comparatively poorly paid editors, in our own country. The pressure, however, upon these professions ceased in a great degree on the 30th ult., as upon that day all projects must have been registered, or they could not come before parliament at the approaching session. The London Gazette, extra, published on the 15th of November, must have been a curiosity—as it contained no less than five hundred and forty-three large folio pages, of advertisements solely. We desire to renew our acknowledgements to our attentive correspondent for his letters and other favors, especially for "Bradshaw's Railway Guide," for November, and the London Times and extra, of same date, containing a complete list of all the railways constructed, chartered and projected, in Great Britain, up to its date of publication; from which it appears that the number completed and in use is 47, costing £70,680,877; the number chartered and in course of construction is 118, or about 2,900 miles, which are estimated to cost £67,359,325. The number projected, in addition to the foregoing, is 1,263! of which, 218 have paid a deposit of over 5 per cent., amounting to £11,171,727, and to comply with the resolutions of the house of lords, must pay a further amount of £9,595,464; and on 402 lines a deposit of 10 per cent. is required and much of it paid, and which, if all paid, will amount to £38,369,109—making upon these 620 projected lines an actual deposit, before they can be acted upon in parliament, of £59,136,300, or about two hundred and ninety-five millions of dollars!!! The remaining projects, 643 in number, have not yet registered their prospectuses, and have not therefore paid up the 10 per cent. on their estimated capital. The total number made, chartered and projected, is 1,423, and if, of the average length of those made and making, viz: 28 miles each, will give 39,984 miles of railroad in Great Britain. But of this amount probably not more than one-half will be constructed within the next fifteen years, or about 1,200 miles, at a cost of about £18,000,000 a year; and who will say that this cannot be done, if done in a regular business way, without interfering at all with the other business operations of that country?



For the American Railroad Journal

No. 21 TOKEN HOUSE YARD, LONDON, }  
November 16th, 1845. }

MY DEAR SIR: I am very much obliged for your favor of the 6th October, and also for the numbers of your Railroad Journal, which were very acceptable, as I had not received the usual supply for some time before.

I am happy to say the atmospheric railway system is becoming more and more promising, and I think the day is not very distant when locomotives will be among the "have been's"—"*fuimus*" is the motto of the Bruce family in Wales, the descendants of Rob't Bruce, king of Scotland. So the locomotive must adopt the same motto before many years to pass.—The practical difficulties in the way of the economical management of the atmospheric system will be removed by the application of the ingenuity and experience of the numerous clever men that will soon be engaged in developing the great resources of this beautiful philosophical system, and I shall be disappointed if another year does not decide in its favor over the locomotive railway. You will find in the Railway Record, of November 15, now sent, a few paragraphs bearing on this subject. You will observe Mr. Samuda says he can carry the atmospheric railway over the Mendip hills without cutting or tunnelling, at 70 miles per hour. This is the system that must be adopted in my native state, to extend the railway between Harrisburg and Pittsburgh, across the Allegheny, with branches and extensions to Erie, Cleveland, etc. I have been told this day that it is decided to have the atmospheric adopted on the Shropshire\* mineral railway of about 60 miles in length. How I should like our countrymen to have the honor of introducing it between Porto Bello and Panama, across the Isthmus of Darien, short of 70 miles long, where the difficulties to be overcome are not nearly so great as between Philadelphia and Columbia, where a double track of railway of 83 miles long has been made for four millions of dollars! It is disgraceful to the commercial world that this short line of communication quick and inexpensive, between the Atlantic and Pacific oceans, by which some 10,000 miles of most dangerous navigation would be prevented, is not made without any further delay. For the trifling expense of 2½ millions of dollars could this vastly important work be made, which would transfer passengers and merchandise across from the Atlantic to the Pacific in less than one hundred minutes, which by the stormy cape Horn require as many days of most disagreeable and dangerous navigation. Pray use your influential pen in endeavoring to bring about this most important work for the formation of a large commerce on the western coast of America, and generally in the Pacific ocean. I have written by this steamer, on this and other subjects to the editors of the New York Courier and Enquirer, whose aid I invoke to this vastly important matter. I hope the public attention will not be distracted by proposing a ship canal, which could not be made between the two beautiful ports, Panama and Porto Bello, for less than \$25,000,000, and the sacrifice of tens of thousands of lives while in progress, which would be many years, while, on the contrary, all the materials of the atmospheric railway could be prepared in England, or our country, and laid down on the line in twelve months time, as

\* You are aware that it is adopted on the South Devon railway, [52 miles long,] now in progress, and several miles will be opened shortly, [see page 1699 of Railway Record,] to show the practicality of the principle.

no tunnelling and cutting would be required. I have had a great deal of conversation on this subject with two most intelligent Americans, who have been repeatedly across the isthmus, and declare that a railway is far preferable to a canal, because the first could be taken through a comparatively healthy district, [direct from Porto Bello to Panama,] while the canal route would be through the most pestiferous and deadly climate in the world. These two beautiful harbors, equal to Boston and New York, would offer the utmost security to the largest fleets, and having resident populations, would require no expenditure of capital for the creation of towns, as would be the case for the commencement and termination of a canal, if that means of communication were preferred to a railway. Both Panama and Porto Bello are so easy of access that there are no pilots, and none are ever required. The first has 15,000, the other about 5,000 people, and both have great commercial capabilities.

As respects iron.—Railway bars are at £12 net cash, on board, at Cardiff and Newport, [Wales,] large and active demand, and two millions of tons of pig iron must be consumed to make the supply of rails required for the existing chartered railways, to say nothing about the 6 or 7,000 miles of railway that will be applied for at the approaching session of parliament, of which some 3 or 4,000 miles may be granted. So you see the iron masters must be very busy to make rails for railways as fast as they may be wanted; but if the atmospheric be adopted, they will require at the lowest estimate, 50 per cent. more of iron. The price of merchant bars is only £9 10s. to £9 15s., and not in that active demand that rails are, between which there is not usually more than 40 shillings difference; but now the difference is 45 to 50s. per ton. For pig iron in Glasgow, speculators and holders are willing to sell at 80 to 82s., while makers ask 95s., for the purpose of deterring orders, of which they have enough on the books. As rails are principally made in South Wales, there are no pigs for sale there, but the nominal price for No. 1 cold blast pig iron there, is £5 per ton.

The gambling and the mania for railways have been very much checked in the last five or six weeks, and a great deal of headlong ruin has been prevented, although much disaster and suffering has been already produced by undue speculation. None but *bona fide* and rational schemes now have any chance of success; there are still enough before the public to more than consume all the capital that ought to be devoted to this species of improvement. The check received will do nothing but good, and will make the property of the country more lasting and substantial. The demand for surveyors and engineers continues unabated. No less than 64 have left the ordnance surveys to join railways, for which they get compensation 8 to 10 or 12 times as much as before. The most extravagant sums are paid for engineers—£10, £12, £15 *per diem* are paid for even common and uncelebrated persons, while such men as *Stephenson, Brunel, Locke*, and others of eminence are making their 20 to £25,000 per annum, and it is the greatest favor to get to speak to them for merely a moment or two. So also with railway counsel and solicitors; they are reaping magnificent harvests. Mr. Austin, a leading barrister in this practice, was employed to the most extraordinary degree last session, taking retainers of £20 to £30 *per diem* from ten, twelve and fifteen different companies, while by no possibility could he attend before parliamentary committees to a greater number than three, four, five or six *per diem*. This is a species

of dishonesty that custom sanctions, but still is very far from being defensible. So also newspaper proprietors have profited by this railway excitement. A great number of new publications have been got up especially by it, and all the old ones have profited in an extraordinary manner. The Times publishes regularly twelve pages, frequently sixteen, and occasionally twenty and twenty-four pages of huge size. The Morning Herald, for weeks and weeks, published twenty and twenty-four pages, so also the Morning Chronicle and Morning Post published sixteen and twenty pages, and the Morning Advertiser, Globe, Standard and Sun, which never before had got beyond four pages, went to the extreme of eight pages. All these huge papers were filled with advertisements concerning railways and docks, to say nothing of "Iron Times," "Railway Chronicle," "Herepeth's Railroad Journal," "Railway Record," "Mining Journal," and other papers, devoted almost exclusively to railway affairs, were crammed with advertisements—all of which are paid for in the most extravagant manner, compared with what is customary in our country. I wish the unemployed engineers and poorly paid editors of our country could change places with their brethren of this country for some time, that they might profit by the immense sums spent in making them rich. After the 30th of November, inst., everything will settle down to more moderation and regularity, and we shall be better able to understand what is going on, than we have been for months past. You know that all plans, sections, and books of reference not deposited with the clerk of the peace and advertised in the London Gazette before 12 o'clock, P.M. of the 30th November, cannot come before parliament for charters for the ensuing session, and the consequence is that now there is the greatest hurry and activity and slavish employment,\* working day and night, both in the fields making surveys, as well as in drawing plans, and estimates, etc., in the offices. Never was such activity prevailing, and if one or two hundred of our unemployed engineers and surveyors had been over here for the last eight or nine months, they could all have obtained full employment at high salaries, and been most acceptably welcomed. I hope, however, the railway system will revive in our country, and that all the engineers and surveyors, as well as newspaper editors will have full employment, without being obliged to come over here to find it.

The extra London Gazette, published on the 15th inst, filled with advertisements of contemplated railways, occupies no less than 543 huge folio pages, while the usual London Gazette, published on the day before, was of three times the ordinary size. Nothing shows in a more striking manner the immense activity prevailing in regard to railways in this country than this fact. The Gazette is published twice a week by the government.

I send you Bradshaw's Railway Guide for November, and also the Times with a supplement of this day. Read the leader and the supplement of this paper, and you will be astonished at the mighty wealth, power and energetic enterprise of this country. I am, my dear sir, your's most truly,

GERARD RALSTON.

\* It appears that one engineer is engaged on eleven of the new lines, another on fourteen, a third on sixteen, a fourth on seventeen, and a fifth on twenty-one lines. The same may be, and no doubt are, engaged on other lines; for many of those on the list have no engineer's name attached to them, and it may be safely assumed that the execution in a proper manner of such a quantity of work is beyond human power.



For the American Railroad Journal.

I observe in an extract from the Sunbury American, that the T rails manufactured at the Montour works, are reduced to the exact length of 18 feet by one operation of circular saws at each end, as the rail comes hot from the rollers.

The process is different at the great iron works in South Wales. At the Dowlais works in 1837, they cut off one end in this manner and immediately presented the sawed end to the finisher, who stood in a trench so as to bring the rail [when lying on the floor covered with cast iron slabs] to the proper height for working. I enquired of Mr. Evans the manager, why they did not cut off both ends at once allowing for the contraction [in place of letting the bar cool, marking the length, heating it again and then cutting it off at the mark.] He answered that the heat was not uniform and consequently they would have a difference of half an inch in the length of the bars.

At Cyfarthfa, the second end was cut off cold by a powerful chisel worked by machinery; and a small matter was pointed out to me by Mr. Crawshaw, as important. The bars are reversed so as to cut from the bottom to the top of the rail, leaving a bur on the upper part to be dressed off with the file, in place of a depression as formerly when they cut from the top to the bottom.

The manufacture of these rails was all done by piece work and each set of men had their own mark. The ballers and rollers of the day charge, had one mark and those of the night, another, placed on the side near the middle of the rail. If on inspection the rail was not properly welded, or rolled in the wrong way [as to the laminae whether vertical or horizontal] it was thrown out. The man who squared the end put his mark on it. The other end the same, and the straightener his mark on the top in the middle. All that passed inspection were paid for according to the stamps.

While writing it may be well to mention other facts that may not be generally known. Rolled bars are brittle when the strain is in the direction of laminae, and tough, when at right angles to the laminae, as was shown to my satisfaction. I was also informed that the two ends of the same bar are of unequal tenacity; that which passes last through the rollers and upon which the manufacturer's name is stamped in ordinary flat bars, being the worst.

If you think the above remarks of any use, they are at your service. Yours respectfully,  
New York, December 5, 1845. B. AYCRIGG.

#### The Canal of the Dique.

Or Carthagenia and Magdalena Canal.—We have before spoken of this work, which is progressing so successfully under the management of our countryman, Mr. George M. Totten, aided by John C. Trautwine of Philadelphia; yet our knowledge of it was so limited, that we could not give much definite information in relation to it, nor can we now, yet we cannot deny ourselves the pleasure of republishing the following very complimentary and we doubt not, just, remarks of the governor of Carthagenia, in his message to the legislature, when speaking of the canal, which we copy from the N. Y. Herald. From our knowledge of the gentlemen in charge of the work, we cannot doubt of the entire success of the undertaking, especially if the estimates have been based on their own examinations and they are allowed to carry it through in their own way, as they will be very likely to do if the present governor continues in the chair of state.

It affords us real pleasure to chronicle the commendations thus bestowed upon our countrymen

abroad, and especially so when they fall on our personal friends. That they will continue to merit golden opinions from those who are to be so much benefitted by their skill and efforts, we have not a doubt, and hope they may reap golden rewards in return for their labors, deprivations and self-denials and return safely to their friends, when they shall have completed their engagements, is our ardent wish.

We shall be greatly obliged to the gentlemen, or either of them for such an account of the work under their charge, of its position, objects and capacity as will enable us to give our readers a much more intelligible idea of it than we now possess ourselves. We desire to put it on record for future reference. The writer of the letter says:—

"I send you the annual message of the governor of this province to the legislative chamber. You will see that he there speaks in high terms of your countryman, Mr. Totten, who is engaged in building the canal of the Dique, between this city and the river Magdalena. This canal progresses well, and Mr. T. receives the credit due for his exertions in conducting it.

#### Translation of that part of the Governor's Message relating to the Canal of the Dique.

"The most important of all which, is the excavation of the canal of the Dique, progresses with activity, in conformity with the contract made with Mr. G. M. Totten, who, directing and superintending the work himself, advances in a most satisfactory manner.

"I was one of those who previously feared that the opening of the canal might be frustrated by some error in its management, or in the calculation of its cost, or other impediment, which might not have been foreseen, and therefore it was my first care, on taking charge of this government, to go, personally, (7th July) to see the work, and examine it throughout, that I might be able to form an exact judgment upon an enterprise which so much interested me, as a Carthaginian, as a Granadian, and as a governor. How gratifying to me was that inspection! My doubts were at an end; the canal will be opened, and opened in less time than was at first calculated. In the *Semanario*, you have seen the monthly result of the excavation; and the jundo of direction of the Dique, having sent a commission to revise the measurement, found the quantity excavated to be 144,644 cubic yards, making a difference of 36,394 yards more than those published from the reports of Mr. Totten, which proceeds, without doubt, from the work done during the month of which the engineer has not yet made his return; and is proof of his probity and the exactness of his reports—so much the more, as the difference is in his favor. In the exposition which will be made to you by the jundo of direction, this subject will be treated of more at length.

"I cannot do less here than improve this occasion to express to you, in deference to that respectable stranger, and the engineer who is associated in his labors—that which most impressed me—which was, the rigid order preserved on the works. 320 men, divided into quadrilles, bathed in sweet, worked with activity, with silence, and with such respect and obedience to the directors and fore-

man, that I could not but reflect upon what might be done by such means, with a method followed with perseverance, with a dignified bearing, with seriousness, and with a few words. (Signed)

"JOAQUIN POSADA GUTIERREZ,  
Gov. of the Province of Carthagenia."

#### Railroad Meetings.

A full report of the railroad meeting held at Philadelphia on the 10th inst., will be given in the next number, accompanied by some remarks of the editor of the Journal, who is at this time absent, and attended the meeting. He speaks of it as being very enthusiastic, and that the right spirit prevailed, except, perhaps, a little jealousy of the Baltimore and Ohio railroad.

**Railroad Meeting at Ebensburg.**—A large and respectable meeting was held at Ebensburg on the 29th ult., at which resolutions were passed in favor of a continuous railroad between this city and Philadelphia, and the following resolutions in relation to the Baltimore and Ohio railroad:

**Resolved,** That while we believe the construction of a continuous railroad from Harrisburgh to Pittsburg to be of most vital importance to the interests of the entire commonwealth, as she will thereby open a channel through her own borders for the immense trade of the Mississippi valley and the great northern lakes, yet are we convinced that the completion of such a road would in a great measure fail in securing that important object, should any other point than Pittsburg be adopted as a termination for the Baltimore and Ohio railroad.

**Resolved,** That while we believe it to be the duty of the legislature to grant a charter for a centre route, we also hold it to be a duty, in order to promote the general welfare and prosperity of our beloved commonwealth, to grant to the Baltimore and Ohio railroad co. the right of terminating their road at the city of Pittsburg as a terminus of that road at Wheeling, Parkersburgh or the mouth of Fishing creek, would inflict deep and lasting injury upon our interests, whether social, mercantile or agricultural.

This is a just and liberal view of the matter, and one which every intelligent and well informed man, will finally take.

Delegates were appointed to the the railroad convention to be held in Harrisburgh on the 2d Monday of January next, a convention, by the way, in which this county ought to be largely represented.—*Pittsburg Advertiser.*

#### Railroad Convention in Nashville, Tenn.

Nov. 24th 1845.—At 11 a.m. the delegates met in the hall of the house of representatives, and were organized by the appointment of the following officers:—Nathan Green of Franklin county, president; James Overton, of Davidson, William Martin of Smith, vice-presidents; A. O. P. Nicholson, Milton A. Haynes, and Henry Bakiwin, secretaries.

Dr. Overton proceeded to explain, in an able address of 20 or 30 minutes, the object of the meeting. He entered into a statement of the advantages which would result from the construction of a railroad from Nashville



to Chattanooga, connecting with the Georgia and South Carolina railroad.

In conclusion he explained the object of the convention to be, to recommend, and if possible, to devise the means, by which that great work might be accomplished.

After Dr. Overton had concluded, Judge Green left the chair, and proceeding to address the convention, said, that his friend (Dr. O.) had already sufficiently explained the advantages which would result from the construction of the railroad. In view of all these advantages he could not suppose that any person could doubt that great good would result from its construction. But he conceived that there might be a difference of opinion as to the practicability of effecting the object proposed.—He therefore, offered the following resolution:

*Resolved*, That a passage for a railroad from Nashville to Chattanooga, across the Cumberland mountains, is practicable at a moderate expense.

Mr. Thomas, of Maury, moved that a committee of ten be appointed to draw up a report and resolutions, declaring the object and wishes of this convention.

#### REPORT OF THE COMMITTEE.

The committee appointed to consider the general objects of the convention, the practicability and advantages of a railroad connection between Nashville and Chattanooga, beg leave to report, that the limited time allowed them to investigate the subject enables them to present only in general terms but a very few of the many important considerations in favor of the proposed work.

After the clear demonstrations which have been made within the last fifteen years, not only in the old world, but in the United States, of the beneficial effects of railroads upon all interests in society, your committee deem any labored argument to prove their general utility wholly unnecessary. It is a conviction of their beneficial influence upon the country which has called this convention together, and prompts its action in the effort now made to secure to our state a cheap and speedy outlet to the markets of our sister states, and of the world, for her rich, varied and abundant productions, and a like introduction to all the necessities and luxuries of life which we have occasion to bring from abroad.

The first consideration to which attention should be directed in an undertaking of this kind is the *practicability* of the work. And on this branch of the subject your committee feel they are relieved from any reliance on mere conjecture not only by the concurring testimony of many intelligent gentlemen well acquainted with the country and the subject, and by the examination and report of Dr. Troost our able state geologist, but more especially by an actual instrumental survey across the Cumberland mountain (the only interposing obstacle) recently made by Dr. Estill of Winchester, an able and experienced mathematician, a report and map of which have been presented to the convention by the Hon. Judge Green and Col. Taul under whose immediate and personal observation the survey was made.

These evidences all concur in demonstra-

ting the entire practicability of the work, and exhibit much more favorable results than the friends of this important enterprise had anticipated. The survey shows that upon remarkably easy grades in ascending one of the tributaries of Elk river, a point at the western base of the mountain is attained from which the distance is but 2234 feet to its eastern base on Rush creek—a prong of Big Crow creek, and the greatest elevation above a horizontal line connecting the two points is 177 feet.—The descent of Rush creek for about 4 miles is on grades of 75 feet to the mile, and the remaining distance through the whole length of Crow creek valley, until the mountain is entirely passed, upon grades not exceeding 10 feet per mile. So far as the committee are advised this is the only route across the mountain upon which an actual instrumental survey has been made, but others which are much recommended by their directness, your committee believe, from reliable information afforded them, will, upon a proper test, be found to be very favorable.

The routes by Battle creek—by the Fiery Gizzard and by the valley of the Little Sequachee are all believed to be practicable, but the one most eligible can, of course, be alone determined by an actual survey, and a comparison of their relative advantages. The committee alludes to the different routes not for the purpose of indicating a preference for one over another, but alone to present to the convention as they now do with the more perfect confidence, the one important fact that a route is not only practicable, but considering the character of the country, remarkably favorable for the proposed work.

Aside from the difficulties which have been alluded to, no serious obstacle to the construction of a railroad from Nashville to Chattanooga is encountered; as the general surface of the country is level, and very favorable for the construction of such a work.

The committee will, in this connection, mention a fact, not unimportant in relation to works of this kind, that on and near the line of the road, are to be found extensive forests of the best cedar timber in the world, affording abundant material for the wooden superstructure, not less durable than the iron which would be placed upon it.

Nashville is surrounded in all directions and for a great distance, by a country, which, for fertility of soil, extent of valuable agricultural productions, mildness and salubrity of climate is unsurpassed by no place or country on the globe; and with mineral wealth, and manufacturing capabilities equalled by few. Yet in prosecuting a commerce with the world through the Atlantic ocean—the great highway of nations—from this city the productions of this favored region have to travel a distance greater than to the mouth of the Oregon river, on the Pacific ocean, before they pass, (as they do) almost in sight of Savannah and Charleston, (now brought comparatively near us,) on their way to the ports of Europe, encountering great delays, expense and damage in so long, difficult and hazardous a voyage.

A great inducement to the construction of

the proposed road, is the facility which it will afford in the prosecution of this commerce with the old world in giving a shorter, cheaper, more certain, safe and expeditious route to the Atlantic, than the single one now enjoyed, and also, the home market which it will afford for the peculiar productions of this country in the southern Atlantic states, where competition with the like productions of the rich states of the northwest is not encountered, as at present, on the Mississippi river, and in the ports of the gulf of Mexico.

Of course, the foreign imports which come in return to this now comparatively far distant and secluded section of country have to perform the same long, circuitous, expensive and uncertain voyage.

The noble enterprise of our sister states of South Carolina and Georgia, if met with a corresponding spirit and exertion on our part, will now speedily unfetter the enterprise of this favored region, through new avenues, and by greatly increased facilities of transportation, appreciate the value of all we have to sell, and diminish the cost of all which our choice or necessities may induce us to purchase.

Your committee cannot omit an illusion to the advantages which the proposed road will afford to the traveller from Nashville and the adjacent country to any of the Atlantic cities.

The Atlantic at Savannah or Charleston may be reached from this place in 24 hours, and any of the eastern cities in less than one-half the time now required on any other route.

With a railroad to Chattanooga and a short one from Atlanta to West Point, Ga., which will soon be made, a journey by that route from Nashville to New Orleans can be made in three days, without increased facilities west of Montgomery, Ala., which are projected, and which, when completed, will reduce the time to two days.

Thus making the proposed work an important link in accommodating the travel between Texas and New Orleans—all the ports of the gulf, the West Indies and Nashville, and the country north of it for a considerable distance.

The route from Nashville to New Orleans via Chattanooga, Atlanta and Montgomery is little over half the distance of that by river, the one now universally adopted, and which requires and average about eight days, and is subject to the dangers of the perilous navigation of the Mississippi river.

Tennessee with a good system of railroads occupies a position more favorable than any other state in the Union for prosecuting a legitimate commerce by exchange of commodities with the southern states of the confederacy, and for furnishing profitably a supply of provisions to those engaged in the production of the great staples of rice, cotton and sugar. The proposed road, in connection with the improvements of our public spirited sister states of the south, opens to middle Tennessee not only the markets of South Carolina and Georgia, but of south Alabama also, and as bringing into requisition an almost new element in our agricultural and manufactu-



ring prosperity, may all be supplied from our hemp with rope and bagging for their cotton.

The improvement of the navigation of the Cumberland river, below Nashville, by locks and dams, is a work which taken in connection with the railroad is of great importance. A large portion of the agricultural productions of the country in Tennessee and Kentucky near this river, and on the Ohio, is destined to reverse the course heretofore taken to market, and by ascending the Cumberland seek an outlet and market in the ports of Savannah and Charleston. As a means of accommodating this trade—of opening an uninterrupted line of travel from the vast country of the Missouri on the highest route to the Atlantic, and as being imperiously called for by the increased and increasing business of the country, your committee although not charged directly with its consideration, have thought it not improper to call attention to the subject with a view of concentrating public feeling and sentiment on it, so far as it can be done by any action of this convention.

The construction of the proposed railroad will afford a means of transportation to market for the exhaustless deposits of stone coal, which now lie valueless embedded in our mountains, and to Nashville and other places west and east of its locality, cheapen by one-half this valuable species of fuel, at the same time that it will develop the natural wealth and give profitable employment to a considerable portion of the labor of the country.

In addition to these considerations, other and more patriotic motives, which appeal directly to the hearts of all good citizens, come also to advocate the construction of this road; considerations which are intimately connected with the perpetuity of our free institutions, and the glory, honor and safety of our federal Union. Written compacts and solemn constitutional provisions and restrictions, intended for the government of states and communities, have ever been found less binding, and less powerful than those ties which spring from social and commercial intercourse; less potent than those ties which spring from mutual interests.

This railroad communication would not only increase the commercial and social intercourse of the west with the south, but it would give to the citizen soldiers of Tennessee, and of Kentucky, the important position of an army of reserve, ready to be poured down at a moment's warning upon the gulf and south Atlantic shores, for the support and protection of their southern neighbors, who must always be exposed to the first incursions of a foreign foe.

Thus, while we would find the west looking to the south for an avenue to the commerce of the world, and deeply interested in every event which might interfere with the tranquility and prosperity of the southern ports and cities—the south in her turn would look to the hardy sons of Tennessee and Kentucky for protection in every moment of peril to her free institutions, or to her commerce.

In view of all these high and solemn considerations, your committee cannot but regard

the proposed railroad enterprise as one which appeals directly to the interest, to the liberality, to the enlightened philanthropy and patriotism of every brave and true-hearted Tennessean. **JONAS E. THOMAS, Chairman.**

#### Cleveland and Pittsburg Railroad

We put upon record the report of Col. Dodge, in relation to this important line of road between the lake and the Ohio, as we do many similar reports, as a matter of reference for the profession, as well as for our own convenience; and if we knew where to hit him we would send a copy of the Journal as an indication that we should be always obliged to him for a copy of his report, as we are to every member of the profession, who appreciates the object and claims of the Journal, by sending for publication in its columns—a copy of all reports and matters of interest in relation to railroads and canals with which they may be connected, or acquainted. It is not for ourselves alone but for the whole community, and especially for the profession that we ask and republish these documents.

#### Report of the Survey and Estimates of the Cleveland and Pittsburg Railroad. By Col. S. Dodge, Engineer.

In accordance with your request, I organized a corps of engineers, and put them under the charge of George Robinson, Esq., a man of much experience and intelligence, and commenced the survey on the 17th of October last.

The route pursued, commences at Merwin street, in the city of Cleveland, and ascends the Cuyahoga river, crossing it twice to the mouth of Kingsbury's run; from thence up said run to Kinsman street, 3 miles from the place of beginning. From this point another line was run diverging a little to the right, and terminating at the intersection of Pittsburg and Kinsman streets about 80 feet above lake Erie.

The object of this double termination is, to avoid the drayage up the steep grades of the streets leading down to the river and lake.—The expense would be little more than laying down the track, the ground being nearly level, and composed of sand and gravel.

From the head of Kingsbury's run, the road winds along the side hill to Newburgh, with a grade of 40 feet ascent to the mile. It then descends to the valley of Mill creek, and continues up the same near the turnpike road to Bedford; thence crossing Tinkers creek it leaves the turnpike to the left until it reaches Hudson. From thence it takes a more easterly course, re-crosses Tinkers creek and the Cuyahoga, passes near the north side of the village of Ravenna, and continues on the right of the Cleveland and Wellsville turnpike to Benton, in Columbiana county. From thence it crosses said turnpike road, and continues near it to Salem, at the head of the east fork of the Little Beaver creek; from thence it crosses the summit between the east and west fork, 736 feet above lake Erie, and takes down the valley of Cold creek to the west fork of Beaver; from thence it continues down said creek to a small run leading from the summit between Beaver and Little Yellow Creek; thence across said summit 600 feet above lake Erie, and 546 feet above the Ohio at Wellsville; from thence it continues down another run to Little Yellow creek; thence

down said creek 6 miles to Wellsville, and terminates at the bluff in the rear of the village at high water mark, 45 feet above the bed of the river.

The most difficult portions of the route are between Martin's Mill and Wellsville, a distance of 4 miles. From the Yellow creek summit to the crossing of the west fork of Beaver, the crossings of Mill creek, Mahoning, Island creek, Cuyahoga river, Tinkers creek, and the grading from Cleveland to the head of Kingsbury's run, a distance of 3 miles, are also expensive. The balance of the road presents few difficulties, and the whole may be pronounced a favorable route.

The greatest ascent is on the 90 chains below Martin's mill on Yellow creek, being 108 feet. There are also, 460 chains in detached places, viz: 120 chains on Yellow creek; 216 chains between Yellow creek summit and Beaver; and 80 chains descending from the west to the east fork of the Beaver, where it has been necessary to raise the grade to 80 feet to the mile. There are a few short grades of 66 feet to the mile; but the most of the line is below twenty feet.

There will be one tunnel one hundred and fifty-four yards in length, on Yellow creek; one curve of one thousand feet radius, and several below fourteen hundred feet. On no other portions of the road will it be necessary to adopt curves of less than two hundred feet radius.

In the following estimate the road has been divided into three divisions.

The first extends from Cleveland to Ravenna, a distance of	37 miles.	25 chains.
The second from Ravenna to Salem,	29 "	74 "
The third from Salem to Wellsville,	29 "	50 "

Whole distance, 96 miles. 69 chains.

The excavations are estimated eighteen feet wide, with slopes of twelve inches in base to eight inches rise. The embankments thirteen feet wide with the same slopes.

The track to be composed of a double course of longitudinal timbers, connected together with ties eight feet long, three feet asunder and five by six inches in diameter.

The upper wood rail to be secured by a flat bar of iron weighing eighteen pounds to the yard.

It must be admitted that a T or H rail would be preferable, but would cost about four thousand dollars more per mile, estimating the iron at seventy dollars per ton, and weighing fifty-six pounds to the yard, the usual weight of such rails.

The crossings of streams and deep ravines (where earth sufficient to make the embankments is not furnished by the excavations,) will be truss work of wood.—Recapitulation.

First division .....	\$301,028 54
Second " .....	199,366 63
Third " .....	305,672 12
Add for damages, contingent expenses, depots, water stations, and locomotives .....	200,000 00

Total expense when fit for use .... 1,006,068 27

Respectfully submitted.

S. DODGE, Engineer



**Suspension Bridges.**

Since the project of constructing a suspension bridge across the Niagara river has been agitated, the public curiosity has been strongly directed to the subject, bridges of that description being almost unknown in this country, and their feasibility doubted by many.—But since a favorable opinion has been given in respect to the construction of one across the Niagara by an engineer so competent and justly celebrated as Mr. Ellet, the matter begins to wear less the aspect of a Quixotic enterprise, and to engage the attention of practical men and capitalists.

We have reliable information that Mr. Ellet is at present engaged in preparing a plan of the contemplated structure, which he will submit to those concerned without loss of time. Of the entire practicability of such a structure, he entertains no question.

The first important suspension bridge erected in Europe, was across the straits of Menai, between Wales and Anglesea; and it is still regarded as one of the best. The distance between its points of elevation is 580 feet; and ships pass beneath it under full sail. Wrought iron chains were used to support the road way.

In 1823 a mechanic of Lyons in France, constructed a suspension bridge across the Rhone at Tournon, of a material which had not been used in any structure of consequence. Cables manufactured of iron wire were substituted for chains. Wire cables are now universally adopted in structures of that sort.

The cables are formed of an assemblage of wire about the diameter of a common writing quill, which are laid parallel to each other in the process of their manufacture, and afterwards collected in a solid mass and bound together by ligatures of the same material.—In a bridge of 400 feet opening between the points of suspension, and 25 feet wide in the clear, there would be needed five cables on each side, each of which would be composed in general of not less than 400 strands of wire, the whole possessing an absolute tenacity of 3000 tons. The suspension bridge across the Schuylkill near Philadelphia, erected in the autumn of 1841, by Mr. Ellet, is the most remarkable structure of this kind in the United States. The distance between the points of suspension of this bridge is 357 feet. Its width between the parapets is 26 feet. The carriage way is 18 feet wide, and there are two foot ways 4 feet each in width. The bridge is supported by four columns 30 feet high and 8½ feet square at the base, constructed of blocks of granite. The bridge is supported by ten cables of iron wire, resting on cast iron rollers placed on the summit of the columns. The flooring is suspended from the cables by means of wire cords similar to the suspension cables in their construction, but smaller. The weight of the entire wood work of the bridge is 115 tons. When the cables sustain only their own weight and that of the flooring, they resist a tension of 240 tons, which is only the ninth part of the force necessary to break them. A weight of 105 tons was placed upon the bridge for the purpose of testing it. It stood the test, and has

sustained every other to which it has been subjected, proving to be a serviceable and excellent bridge. Its cost was \$53,000.

It will be a gigantic undertaking, and worthy to stand beside the great cataract.—*Rochester American.*

**Nashville and Chattanooga Railroad.**—In the Tennessee house of representatives on the 3d inst., Mr. Whiteside from the committee on internal improvements, reported a bill to incorporate the Nashville and Chattanooga railroad company. The stock to consist of 15,000 shares at \$100 each—the company to go in operation as soon as 10,000 shares are subscribed and five dollars on each share shall have been paid; the remainder of the stock to be called for by instalments of \$5 on each share. The bill contains, in addition, the usual provisions of charters of this kind. Read the first time.—*Georgia Chronicle.*

**Railroad Projects.**—The citizens of Massillon propose to the Cleveland people, to bring their railroad down to that place, then to branch to the Ohio river at Wheeling on a route which has been surveyed, and to Columbus through the counties of Holmes and Licking. Should this be done this road will be intersected at Massillon by one from Pittsburg.—*Cincinnati Gazette.*

**BOSTON, CONCORD AND MONTREAL** Railroad. Proposals will be received for the Grading and Masonry of this Road, from Concord, N. H., to the Connecticut river at the mouth of Ammonoosuc river, till the 23d inst. Specifications, Profiles, Surveys, etc., may be obtained of the Engineer, William P. Crocker, at Meredith Bridge, who will furnish any desired information in relation to the subject. Bids will be received for the whole line or any part of it; and it will be expected the work will be commenced as soon as may be after the contracts are closed.

Sealed proposals may be made to either of the Directors, or the Engineer, and will be considered by the Board at the Eagle Coffee House, in Concord, on Tuesday the 23d inst.

**JOSIAH QUINCY.**

*President B. C. and M. Railroad.*

December 2, 1845.

2t 50

**NOTICE TO RAILROAD CONTRACTORS.** Proposals will be received at the office of the Pittsfield and North Adams Railroad Corporation in Pittsfield, Mass., until the 20th of December next.

1st. For the Graduation, Masonry and Bridging of 18½ miles of Roadway.

2d. For furnishing the Timber, Chairs and spikes and laying the Superstructure.

3d. For furnishing Materials and Building a heavy, substantial Post and Rail fence upon each side of the Roadway.

The approximate quantities are as follows, to wit: 600,000 cubic yards of Excavation and Embankment.

6,500 perches of Masonry.

500 feet of Bridging.

43,000 chestnut or white oak Cross-ties, 5 inch face 7 inches between faces and 7 feet long.

500,000 feet board measure, Hemlock sills 3 in. x 8 in. x 18 feet long.

150,000 feet board measure, Hemlock sills 3 in. x 8 in. x 6 and 12 feet long.

70,000 fence rails 12 feet long, either split from thrifty Chestnut of a size not less than 5 in. x 2 in. measured across the centre of the smallest end, or sawed from Spruce timber with square edges, 5 in. x 1½ in. or from Hemlock 5 in. x 2 in.

18,000 Chestnut fence posts, holed with 4 holes 7½ feet long and measure not less than 8 in. x 4 in. across the centre of the smallest end.

45 tons of Hook Head Railroad Spike.

90 tons of Cast Iron Chairs.

Plans, Profiles, Specifications etc., will be ready for examination on and after the 15th December.

**FREDERICK HARBACH,**

*Resident Engineer.*

Office of the Pittsfield and North Adams Railroad Corporation.

Pittsfield, Nov. 26th 1845.

3t 49

**C. J. F. BINNEY,**

**GENERAL COMMISSION MERCHANT** and Agent for Coal, and also Iron Manufactures, etc.

No. 1 CITY WHARF, Boston.

Advances made on Consignments.

Refer to Amos Binney, Boston.

Grant & Stone,

Brown, Earl & Erringer, } Philadelphia.

Weld & Seaver, Baltimore.

December 8, 1845.

1m 50

**A CARD.**

**THE SUBSCRIBER, EDITOR AND PUBLISHER** of the *Miners' Journal* for the last sixteen years, has been engaged, for the last year in collecting the materials for a work, for which he has secured the copy right, in the following words:—"A history of the Anthracite Coal Trade of Schuylkill and the adjoining Counties, Geological and Statistical, accompanied with Maps of the different Regions, the Improvements, Investments, Capacity, etc., embracing a complete and authentic history to the present time, to which will be appended a Synopsis of the Iron Trade."

It is our intention to embrace everything of interest in the work, connected with the trade, up to the beginning of the year 1846, prepared and arranged with a view of continuing the publication, at periods of five or ten years, with such additions as the increased trade will warrant. These branches of trade have assumed an importance which will warrant such a publication; and he feels confident, that with the proffered aid of several gentlemen and the statistics already in his possession, he will furnish the public with a work, which, if not one of the most interesting in its details, it will be of great value to those engaged and interested in these branches of business.

As soon as the Maps, etc. are prepared, and some idea can be formed of the probable expense of publishing the work, proposals will be issued for the same. All the tracts of Coal land will be designated on the Map of the Schuylkill Coal Region, which will accompany the work.

Pottsville, Nov. 13, 1845. **BENJ. BANNAN.**

**NEW YORK AND ERIE RAILROAD**

Company. The Stockholders of this company are hereby notified that an instalment of Five dollars on each share of the new stock, on which not more than five dollars has been paid, is required to be paid at the office of the company, No. 50 Wall street, on or before Wednesday, the 10th day of December next. By order of the board of Directors. **NATHANIEL MARSH, Secretary.**

New York November 5, 1845.

N.B. Subscribers at or near Newburgh are requested to make payment to Thomas C. Ring, Esq. Cashier of the Powell Bank.

4t 46

**RAILROAD IRON.—THE "MONTGOMERY" Iron Company,** Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to **MURDOCK, LEAVITT & CO.,**

*Agcn's.*

Corner of Cedar and Greenwich Sts.

43 17

**WESTERN AND ATLANTIC RAILROAD.** The Western and Atlantic Railroad is now in operation to Marietta, and will be opened to Cartersville, in Cass county, on the 20th of October—and to Coosa Depot, (formerly known as Borough's,) on the 20th of November.

The passenger train will continue, as at present to connect daily (Sundays excepted) with the train from Augusta, and the stage from Griffin.

**CHAS. F. M. GARNETT,**

*Chief Engineer.*

**NOTICE IS HEREBY GIVEN THAT** the New York and Harlem Railroad Company intend to apply to the Legislature of the State of New York, at the ensuing session thereof, for an amendment to their charter, authorizing them to pledge their property and franchise for the purposes of extending their road from its present termination to the city of Albany, and for other purposes. Dated Nov. 20th.

48 61



**BOSTON AND MAINE RAILROAD.**

Upper Route. Boston to Portland via, Charlestown, Somerville, Malden, Stoneham, South Reading,

Reading, Wilmington, Ballardvale, Andover, North Andover, Bradford, Haverhill, Atkinson, Plaistow, Newtown, Kingston, East Kingston, Exeter, South Newmarket, Newmarket, Durham, Madbury, Dover, Somersworth, South Berwick, North Berwick, Wells, Kennebunk, Saco and Scarborough.

Winter Arrangement, 1845 & 6. On and after Monday, October 20th, 1845, Passenger Trains will run daily, (Sundays excepted,) as follows, viz.

Leave Boston for Portland at 7 $\frac{1}{2}$  a.m. and 2 $\frac{1}{2}$  p.m. Leave Boston for Great Falls at 7 $\frac{1}{2}$  a.m., 2 $\frac{1}{2}$  p.m. and 3 $\frac{1}{2}$  p.m. Leave Boston for Haverhill at 7 $\frac{1}{2}$  a.m., 2 $\frac{1}{2}$  p.m. and 5 p.m. Leave Portland for Boston at 7 $\frac{1}{2}$  a.m., and 3 p.m. Leave Great Falls for Boston at 6 $\frac{1}{2}$  a.m., 9 $\frac{1}{2}$  a.m. and 4 $\frac{1}{2}$  p.m. Leave Haverhill for Boston at 6 $\frac{1}{2}$ , 8 $\frac{1}{2}$ , and 11 a.m., and 6 $\frac{1}{2}$  p.m.

Special Train.—A special train will leave Boston for Andover at 11 $\frac{1}{2}$  a.m., and Andover for Boston at 3 $\frac{1}{2}$  p.m.

The Depot in Boston is on Haymarket Square.

Passengers are not allowed to carry Baggage above \$50 in value, and that personal Baggage, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every \$500 additional value.

CHAS. MINOT,

October 20, 1845. 43 ly Super't.

**SPRING STEEL FOR LOCOMOTIVES.**

Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1 $\frac{1}{2}$  to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, Agent,

ja3 Albany-Iron and Nail Works, Troy, N. Y.

**TO IRON MANUFACTURERS. THE**

Subscribers, as Agents of Mr. Geo. Crane, of Wales, having obtained a patent in the United States for his process of smelting Iron Ore with Anthracite coal, and holding an assignment of the patent obtained by the late Rev. F. W. Geissenhainer, are prepared to grant licenses for the manufacture of Iron according to Mr. Crane's principle.

A. & G. RALSTON & CO.,

ja45 No. 4 South Front st., Philadelphia, Pa.

**MACHINE WORKS OF ROGERS,**

Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR, a45 Paterson, N. J., or 60 Wall street, N. York.

**FOR SALE AT A SACRIFICE.—A LOCO-**

motive Engine, 4 wheels and Tender. Cylinders 10 in. dia., Stroke 16 in., Cylinders inside of smoke box. Weight of engine, with wood and water, about 9 tons. This engine and tender are new, and of the best materials and workmanship. If required, would be altered to a 6 wheeled engine.

Also, 1 20-horse High Pressure Steam Engine. 2 8-horse " " "

1 Upright Hydraulic Press.

All of which will be sold low, on application to T. W. & R. C. SMITH.

Founders and Machinists,

May 12th Alexandria, D. C.

**GEORGIA RAILROAD. FROM AUGUSTA TO ATLANTA—171 MILES.**

This Road in connection with the South Carolina Railroad and

the Western and Atlantic Road now forms a continuous line of Railroad of 360 miles from Charleston to Cartersville, two miles west of the Etowa River in Cass County.

Rates of Freight, and Passage from Augusta to Cartersville.

On Boxes of Hats, Bonnets, and Furniture

per foot..... 15 cts.

" Dry goods, shoes, saddlery etc., per. 100 lbs. 85 "

" Sugar, coffee, iron, hardware, etc. " 70 "

" Flour, bacon, mill machinery etc. " 33 $\frac{1}{2}$  "

" Molasses, per hogshead \$9; salt per bus. . 22 "

Passengers \$9 50; children under 12 years of age and servants, half price.

Passengers to Atlanta, head of Ga. Railroad, \$7.

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Augusta.

J. EDGAR THOMPSON,

Ch. Eng. and Gen. Agent.

Augusta, Oct. 21 1845. \*44 ly

**NICOLL'S PATENT SAFETY SWITCH**

for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing the running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee.

G. A. NICOLLS,

ja45 Reading, Pa.

**GEORGE VAIL & CO., SPEEDWELL IRON**

Works, Morristown, Morris Co., N. J.—Manufacturers of Railroad Machinery; Wrought Iron Tires, made from the best iron, either hammered or rolled, from 1 $\frac{1}{2}$  in. to 2 $\frac{1}{2}$  in. thick.—bored and turned outside if required. Railroad Companies wishing to order, will please give the exact inside diameter, or circumference, to which they wish the Tires made, and they may rely upon being served according to order, and also punctually, as a large quantity of the straight bar is kept constantly on hand.—Crank Axles, made from the best refined iron; Straight Axles, for Outside Connection Engines; Wrought Iron Engine and Truck Frames; Railroad Jack Screws; Railroad Pumping and Sawing Machines, to be driven by the Locomotive; Stationary Steam Engines; Wrought Iron work for Steamboats, and Shafting of any size; Grist Mill, Saw Mill and Paper Mill Machinery; Mill Gearing and Mill Wright work of all kinds; Steam Saw Mills of simple and economical construction, and very effective Iron and Brass Castings of all descriptions.

ja45ly

**TO RAILROAD COMPANIES AND MAN-**

ufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside.

THOMAS & EDMUND GEORGE,

ja45 N. E. cor. 12th and Market sts., Philad., Pa.

**NORWICH AND WORCESTER RAIL-**

Road. On and after May 22, 1845, Trains will leave as follows, viz:—

Accommodation Trains, daily, except Sunday. Leave Norwich, at 6 a.m., and 4 $\frac{1}{2}$  p.m. Leave Worcester, at 10 a.m., and 4 $\frac{1}{2}$  p.m.

The morning train from Norwich, and the morning and evening trains from Worcester, connect with the Boston, Western, and Hartford and Springfield railroads.

New York Train, via Steamboat. Leaves Norwich for Worcester and Boston, every morning except Monday, upon the arrival of the boat from New York, about 2 a.m. Leaves Worcester for Norwich and New York, at 5 $\frac{1}{2}$  p.m., daily, except Sunday.

New York Train, via Long Island Railroad.—Leaves Norwich about 3 p.m., for Worcester and Boston, daily, except Sunday. Leaves Worcester for Norwich and New York, at 7 $\frac{1}{2}$  a.m., daily, except Sunday, and arrives in Norwich at 9 $\frac{1}{2}$ .

Freight Trains. Daily, except Sunday.

Fares are less when paid for Tickets, than when paid in the cars.

EMERSON FOOTE,

Superintendent.

32 ly

**LAWRENCE'S ROSENDALE HYDRA-**

ulic Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Floors and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,

142 Front street, New York.

Orders for the above will be received and promptly attended to at this office.

32 ly

**SUMMER ARRANGEMENT—FARE**

REDUCED.

By the Great Southern Mail

Line, via Washington City, and the only line that now issues through tickets south, to Weldon and Charleston, S. C., whereby the traveller gains 24 hours in advance of those who take the Bay route. This is the only line that carries the great southern mail to Richmond, Petersburg, Weldon, and Charleston, S. C.

Direct to New Orleans, and at the following reduced rates of fare, viz: Through tickets from Baltimore to Charleston, \$21: whereby the traveller saves \$4 25. Bear in mind that this is the great Southern Mail Line, and the only one that issues a through ticket South. Those who patronize it will save their money and time. Through Tickets from Baltimore to Charleston \$21; Baltimore to Weldon \$10; Baltimore to Petersburg \$7 50; Baltimore to Richmond \$7.

Fast Mail Line.—Leave New York at 9 a.m. and arrive in Philadelphia at 3 $\frac{1}{2}$  p.m.; arrive in Baltimore at 11 p.m.; arrive in Washington at 3 a.m.; arrive in Fredericksburg at 9 a.m.; arrive in Richmond, Va., at 12 $\frac{1}{2}$  to 1 p.m.; arrive in Petersburg, Va., at 3 p.m.; arrive in Weldon, N. C., at 10 p.m.; arrive in Wilmington, N. C., at 12 m.; arrive in Charleston, S. C., at 6 a.m.

Passengers by the above line will arrive at Richmond by 11 $\frac{1}{2}$  o'clock p.m. and Petersburg, Va. by 2 $\frac{1}{2}$  o'clock p.m., through to the former city in twelve hours, and to the latter in fourteen and a half hours, (and in eight hours less time than by the Bay route,) and to Charleston, S. C., in fifty-one to fifty-two hours after leaving Baltimore, and do not incur the risk of any detention at intermediate points as those who take the Bay route.

Way Mail Schedule.—Leave New York at 5 o'clock p.m. and arrive in Philadelphia at 10 p.m.; arrive in Baltimore at 2 $\frac{1}{2}$  p.m.; arrive in Washington at 7 p.m. From Philadelphia by steamboat.—Leave Philadelphia at 6 a.m. and arrive in Baltimore at 1 p.m.; leave Baltimore at 5 p.m. and arrive in Washington at 7 p.m.

For further information and through tickets apply at the Southern office, adjoining the Washington railroad ticket office, Pratt street, Baltimore.

31 STOCKTON & FALLS.



### BOSTON AND PROVIDENCE RAILROAD.

Passenger Notice. Winter Arrangement. On and after Monday, Nov. 3, the Passenger

Trains will run as follows:

For New York—night line, via Stonington. Leaves Boston every day, but Sunday, at 4½ p.m.

Accommodation trains, leave Boston at 8 a.m. and 3½ p.m., and Providence at 8 a.m. and 3½ p.m.

Dedham trains, leave Boston at 9 a.m. 3, 5½ and 10 p.m. Leave Dedham at 8 and 10½ a.m., and 4½ and 7 p.m.

Stoughton trains, leave Boston at 12 m. and 4 p.m. Leave Stoughton at 8:20 a.m. and 2½ p.m.

All baggage at the risk of the owners thereof. N.B. The last train to and from Boston and Dedham, will be omitted in case of a severe snow storm.

W. RAYMOND LEE, Supt. 311y

### BRANCH RAILROAD AND STAGES CONNECTING WITH THE BOSTON AND PROVIDENCE RAILROAD.

Stages connect with the Accommodation trains at the Foxboro' Station, to and from Woonsocket. At the Seekonk Station, to and from Lonsdale, R. I. via Pawtucket. At the Sharon Station, to and from Walpole, Mass. And at Dedham Village Station, to and from Medford, via Medway, Mass. At Providence, to and from Bristol, via Warren, R. I. Taunton, New Bedford and Fall River cars run in connection with the accommodation trains.

### NEW YORK AND ERIE RAILROAD LINE.

For Middletown, Goshen, and intermediate places. Two daily lines each way, as follows:

For passengers, the new, and commodious steamboat St. Nicholas, Capt. Alex. H. Shultz, will leave the foot of Duane street daily, [Sundays excepted] at 7½ o'clock, A.M., and 5 o'clock, P.M., through in five hours. Returning, the cars will leave Middletown at 6 A.M., and 4½ P.M. For further particulars inquire of J. Van Rensselaer, Agent, corner of Duane and West streets.

H. C. SEYMOUR, Superintendent.

Stages run from Middletown daily, in connection with the afternoon line, to Bloomingburg, Wurtsboro, Monticello, Mt. Pleasant, Binghamton, Owego, Port Jervis, Honesdale, Carbondale, etc.

On Monday, Wednesday, and Friday, to Dundaff, Montrose, Friendsville, Lenox, Brooklyn, etc., etc. 31 1y

### BALTIMORE AND SUSQUEHANNA RAILROAD.

The Passenger train runs daily except Sunday, as follows:

Leaves Baltimore at 9 a.m., and arrives at 6½ p.m. Arrives at York at 12½ p.m., and leaves for Columbia at 1½ p.m. Leaves Columbia at 2 p.m., and leaves York for Baltimore at 3 p.m. Fare to York \$2. Wrightsville \$2 50, and Columbia \$2 62½. The train connects at York with stages for Harrisburg, Gettysburg, Chambersburg, Pittsburg and York Springs.

Fare to Pittsburg. The company is authorized by the proprietors of Passenger lines on the Pennsylvania improvements, to receive the fare for the whole distance from Baltimore to Pittsburg. Baltimore to Pittsburg.—Fare through, \$9 and \$10.

Afternoon train. This train leaves the ticket office daily, Sundays excepted, at 3½ p.m. for Cockeysville, Parkton, Green Springs, Owings' Mills, etc.

Returning, leaves Parkton at 6 and Cockeysville and Owings' Mills at 7, arriving in Baltimore at 9 o'clock a.m.

Tickets for the round trip to and from any point can be procured from the agents at the ticket offices or from the conductors in the cars. The fare when tickets are thus procured, will be 25 per cent. less, and the tickets will be good for the same and following day on any passenger train.

D. C. H. BORDLEY, Supt.

31 1y Ticket Office, 63 North st.

### DAVIS, BROOKS & CO., 30 WALL ST.

Have now on hand and for sale, 300 tons 2½ x ½ inch Flat punched Rails, Bars 18 feet each.

100 tons Heavy Edge Rails, 90 tons per mile.

30 tons 2½ x ½ inch Flat Rails.

Also—A STEAM PILE DRIVER, built by "Dunham & Co." which has never been used, and cost originally \$5000.

### BALTIMORE AND OHIO RAILROAD.

MAIN STEM. The Train carrying the Great Western Mail leaves Bal-

timore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points \$7, and 4 cents per mile for less distances. Fare through to Wheeling \$11 and time about 36 hours, to Pittsburgh \$10, and time about 32 hours. Through tickets from Philadelphia to Wheeling \$13, to Pittsburgh \$12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

### WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare \$1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. 31 1y

### CENTRAL RAILROAD-FROM SAVANNAH TO MACON.

Distance 190 miles.

This Road is open for the transportation of Passengers and Freight.

Rates of Passage—\$3.00. Freight—

On weight goods generally 50 cts. per hundred.

On measurement goods 13 cts. per cubic ft.

On brls. wet (except molasses and oil).....\$1 50 per barrel.

On brls. dry (except lime).... 80 cts. per barrel.

On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.

On hhds. and pipes of liquor, not over 120 gallons.....\$5 00 per hhd.

On molasses and oil.....\$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission.

THOMAS PURSE,

40 Gen'l. Supt. Transportation.

### LEXINGTON AND OHIO RAILROAD.

Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare \$1 25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and 9 a.m. from Frankfort, other hours as above.

35 1y

### KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J.

Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire, } New York.

Peter Cooper, } New York.

Murdoch, Leavitt & Co. }

J. Triplett & Son, Richmond, Va.

J. R. Anderson, Tredegar Iron Works, Richmond, Va.

J. Patton, Jr. } Philadelphia, Pa.

Colwell & Co. }

J. M. L. & W. H. Scovill, Waterbury, Conn.

N. E. Screw Co. } Providence, R. I.

Eagle Screw Co. }

William Parker, Supt. Bost. and Worc. R. R.

New Jersey Malleable Iron Co., Newark, N. J.

Gardner, Harrison & Co. Newark, N. J.

25,000 to 30,000 made weekly. 35 1y

### RAILROAD IRON AND FIXTURES.

The Subscribers are ready to execute orders for the above, or to contract therefor, at a fixed price, delivered in the United States.

DAVIS, BROOKS & CO.,

30 Wall st., N. York.

### NEW YORK AND HARLEM RAILROAD COMPANY.—Winter Arrangement.

On and after Monday, November 3d, the cars will run as follows:

Leave City Hall for Harlem (125th street,) Morrisiana, Fordham, Williams' Bridge, Hunt's Bridge, Underhill's Road, Tuckahoe, Hart's Corners, and White Plains—7:30 and 10:30 a.m., and 1 and 3:30 p.m.

Extra trains for Yorkville, Harlem, Morrisiana, Fordham, and Williams' Bridge, leave 27th street 7 a.m. for Williams' Bridge. Leave City Hall 9 a.m. (to Harlem only) and 11:30, 2:30, and 4:30 p.m. for Williams' Bridge.

Leave White Plains for City Hall—8:10, 11:10 a.m., and 1:45, 4:10 p.m.

Leave Tuckahoe for City Hall—8:20, 11:20 a.m., and 1:55, 4:20 p.m.

Leave Williams' Bridge for City Hall—7:45, 8:45, 11:45 a.m. and 12:45, 2:15, 3:45, 4:45, and 5:45 p.m.

Leave Morrisiana for City Hall—8:10, 9:10, and 10 a.m., and 12:10, 1:10, 2:40, 4:10, 5:10, and 6:10 p.m.

The freight train will leave City Hall at 12:45 p.m. and leave White Plains at 11:10 a.m. All freight must be at the City Hall between the hours of 10:30 a.m. and 12:30 p.m. The White Plain trains will stop, after leaving the City Hall, only at the corner of Broome street and the Bowery, Vauxhall Garden and 27th street.

An extra car will precede each train, 10 minutes before the time of starting from the City Hall, and will take up passengers along the line.

The City Hall and 27th street line will run every 6 minutes from 7:30 a.m. to 8 p.m.

The City Hall and 27th street night line will run every 20 minutes from 8 to 12 o'clock.

On Sundays the trains will be regulated according to the state of the weather. 1y 46

### THE LONDON RAILWAY RECORD.

Edited by Mr. JOHN ROBERTSON, A. M., (connected from the commencement with the Weekly Railway press of England.)

The *Railway Record* is acknowledged to be the leading English Railway Journal, and is published twice a week in London, namely on Wednesday and Saturday. It contains copious and correct reports (by special reporters) of all railway meetings in the United Kingdom; ample Share Lists and Traffic Tables, showing the length, cost, capital and selling prices in the principal markets, with Editorial articles on the leading Railway topics of the day. The *Railway Record* contains also, a complete resume of French, Belgian and other foreign Railway affairs.

Subscriptions 13s. per quarter, to be transmitted in advance to Messrs. Dawson and Sons, Ca<sup>o</sup> st. London. Office 153 Fleet street, London. 46

### BOSTON COURIER, DAILY, SEMI-Weekly and Weekly.

The *Daily* edition of the *Courier*, presents to merchants and others, an extensive medium of advertising. The circulation of the *Semi-Weekly* *Courier* (published on Mondays and Thursdays) is believed to be more extensive than that of any other similar Boston Newspaper. This publication embraces all the reading matter of the *Daily*, the Foreign and Domestic Markets, Review of the Boston Market, Prices current, and Ship News, prepared with great accuracy. The *Weekly* *Courier* contains as much of the matter of the *Daily* as can be crowded into a sheet of the same size, without ship news, prices current or advertisements.

Our extensions to obtain and publish authentic information on all topics proper for the columns of a newspaper,—the state of trade, the prices of merchandise, the current news of the day, and the political movements in the various sections of the country—will not be abated. The marine department of the *Courier* has been inferior to none in copiousness or accuracy of detail, and it will be our endeavor to maintain its reputation in this respect.

### TERMS OF SUBSCRIPTION.

For the *Daily* *Courier*, for one year, in advance \$8.00

For the *Semi-Weekly* *Courier*, for one year... 4.00

For the *Weekly* *Courier*, for one year..... 2.00

JOSEPH T. BUCKINGHAM.

EBIN B. FOSTER.